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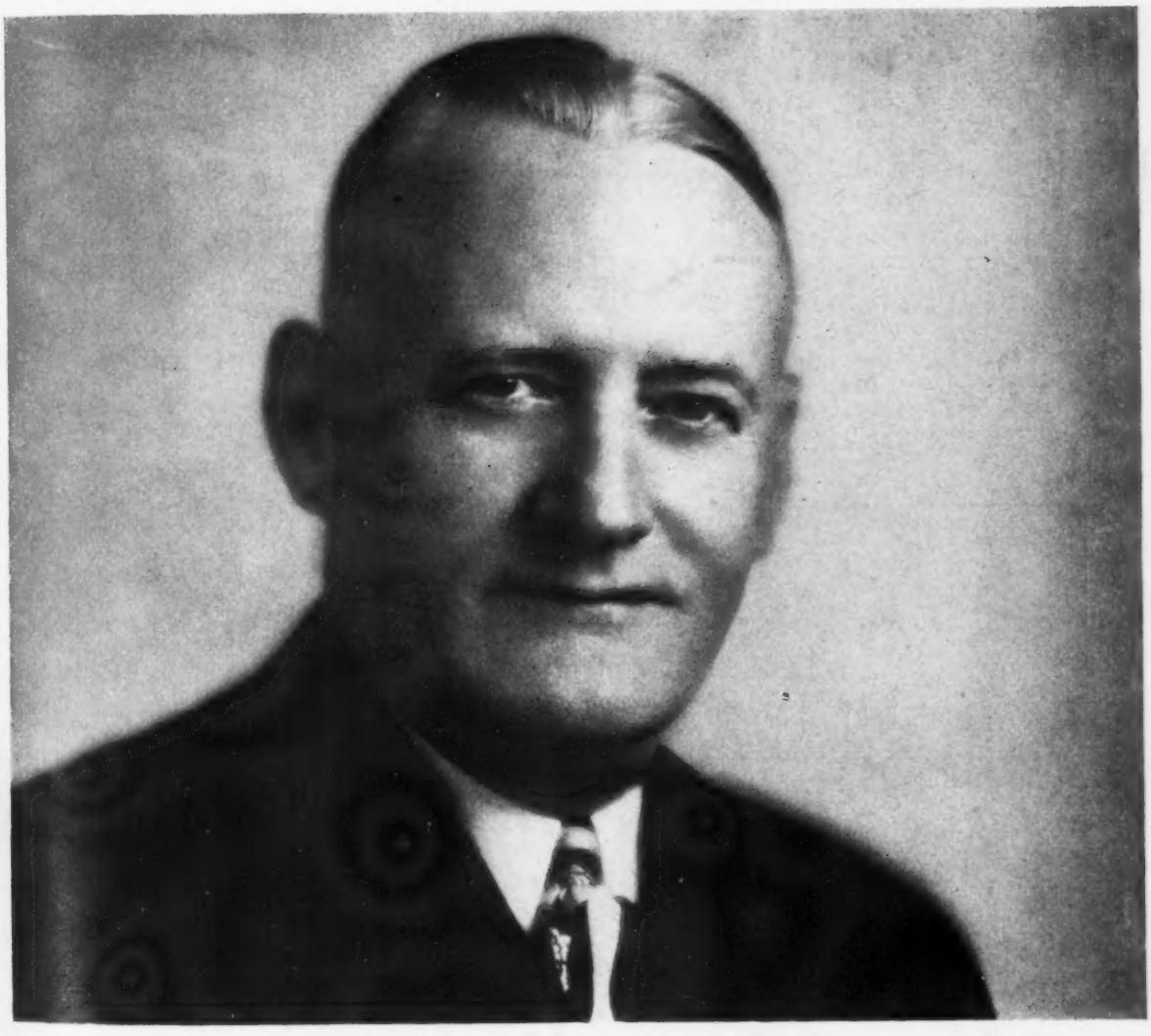
News Issue

AUGUST 23, 1947



Bernard F. Braheney, Newly Elected President of the Northern States Power Co of Minnesota

A McGRAW-HILL PUBLICATION

The First HYDRO UNIT POWER PLANT

WILL GO INTO OPERATION THIS FALL

A hydro unit power plant — to be installed in New England — introduces the newest G-E development in the field of completely factory-fabricated unit equipment. The plant will include complete electric equipment from the generator coupling to the transmission line, all fully co-ordinated mechanically and electrically — designed, built and installed as a *unit*.

The G-E hydro unit power plant brings to power generation a more complete co-ordination of modern, metal-enclosed station equipment, gives extra assurance of power continuity and safety. And with it come these inherent economies that many operators cannot afford to overlook.

- ★ **Savings in detailed engineering and drafting**—You avoid the long, costly job of individually selecting and co-ordinating all plant components.
- ★ **Savings in purchasing**—General Electric submits one complete set of specifications for all plant electric equipment.
- ★ **Savings in installation**—The unit plant is less expensive to install. One purchaser states that installation costs are only a third of those of installing the equivalent piecemeal equipment.
- ★ **Savings in operation**—Co-ordinated protective equipment—offered as an integral part of the hydro unit plant—permits unattended operation after starting, or remote control operation.

FOUR OTHER G-E HYDRO UNIT PLANTS GOING ON THE JOB SOON

Four more hydro unit plants — ranging in size from 4375 to 18750 KVA are now in various stages of manufacture. For additional information on a specific installation in which you may be interested, contact your nearest G-E office. Or write, Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

A G-E hydro unit power plant includes the exact combination of electric equipment needed for the specific installation.

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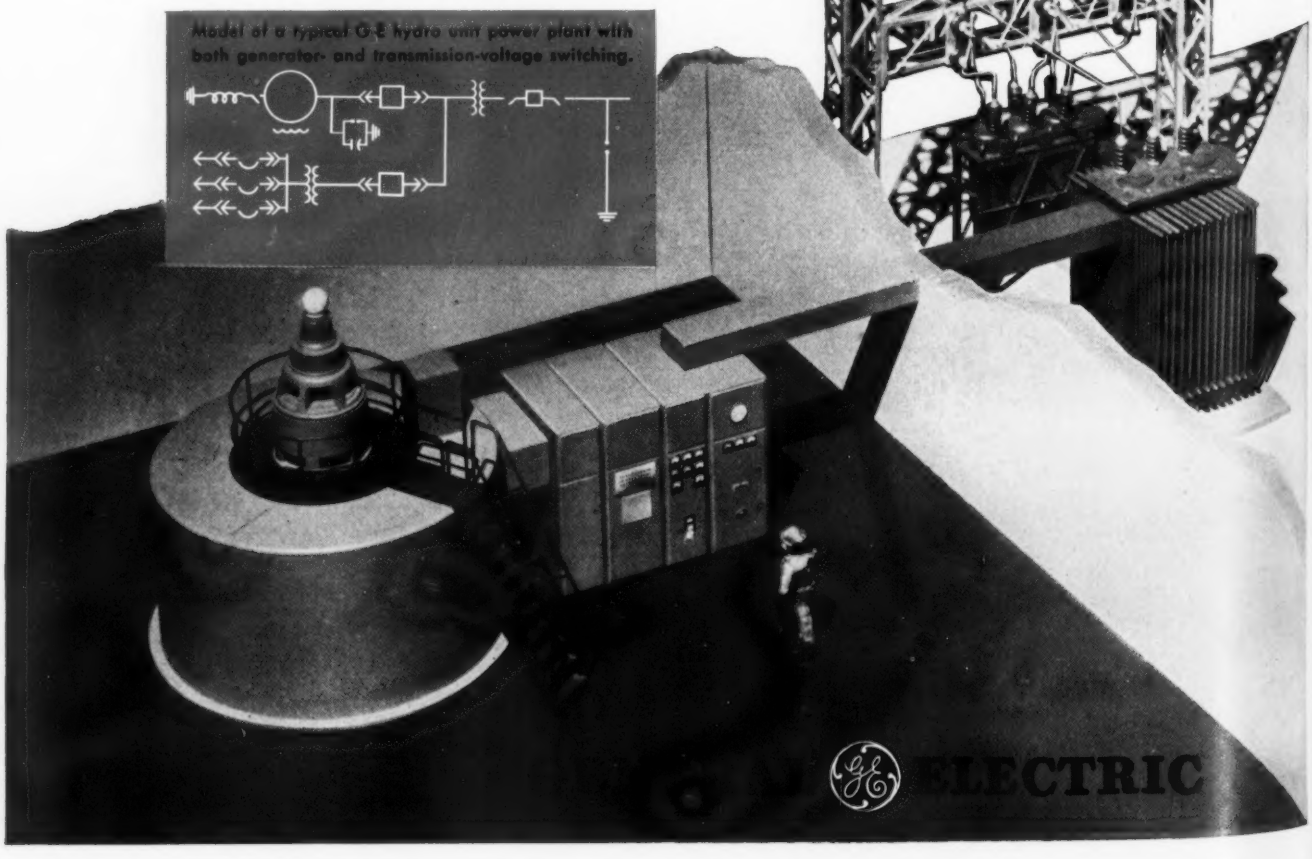
AUTOMATIC CONTROL • VOLTAGE REGULATOR
SWITCHGEAR • STATION SERVICE • BUS RUNS
INSTALLATION DRAWINGS



NEWS
ELECTRICAL WORLD

ELECTRICAL INDUSTRY'S WEEKLY NEWS REPORT

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The Electrical Week

The Reclamation Bureau has instructed its regional offices to rush work on construction projects. Goal for fiscal 1948 is to complete projects totalling $195,000,000. Included in this program are a number of power projects in the Far West. The Atomic Energy Commission is taking over a research project on propulsion of aircraft by nuclear energy. This was one of the last atomic projects in military hands. The transfer will mean little as AEC is being criticized for being more military than the military. If electric utilities will agree to voluntary conciliation and arbitration as the exclusive means of settling disputes, IBEW will sign no-strike pacts. Speaking at a convention, Paul Raver, BPA administrator, advised public power officials to secure amendment of the Bonneville Act so that BPA can expand capacity or else secure their own sources of power.

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One of the largest Southern systems is convinced that farm wages will stay high. So it sees more demand than ever for power-driven farm equipment—and for rural electric service on a par with urban areas. Much of its thinking is based on a summer survey by schoolteachers who were hired to study 9,000 prospective customers on 3,000 miles of line. Before lines could be built, the customers grew to 30,000 and the mileage to 7,000.

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New materials—and new uses of old ones—show much promise for electrical manufacturers. But the drive today is for full production. Thus, the use of many new materials—and even new designs—is held up because they would curtail output now. But one manufacturer says half his post-war design changes stem from availability of new materials, developed for war.

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Uncertainty still shrouds Southwestern Power Administration's contract with Texas Power and Light for Denison Dam energy. But it is the basis for negotiations between SPA and other area systems. Reports say agreement with the latter now depends upon SPA. First, it must pare its transmission line program.

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The Senate holds the key to next year's expected revision of federal power policy. House leaders like the Dondero bill, which would give

Army and FPC control of energy produced at Army-built plants. But sentiment in the Senate favors creation of a new, independent, power-marketing agency, as proposed by Rep. Everett Dirksen. Such an agency would take over energy sales from Interior and Army projects, but would not disturb TVA or Bonneville.

Britain's economic crisis, and its temporizing on nationalization of steel, won't affect the nationalization of power. That measure has been passed by Commons. Also, power is the easiest to nationalize and most profitable to the Labor Government.

Eighty-eight municipal electric and water systems in Wisconsin reported total profits of $1,538,780 in 1946. They came from operating revenues of $8,723,847. Twenty-two systems made contributions to municipal funds totalling $450,169. Seven reported losses during the year.

Maj. Gen. Leslie Groves, who headed the war-time development of the A-bomb, says that today, the project remains "virtually 100 percent a military project." Development of atomic-electric power, Groves adds, "is still 10, 15 or 20 years—possibly even decades—away, in my opinion."

Automobile makers are joining the rush for more generating capacity. Generators for autos are expected to rise from today's 35 amp to 60-85 amp in the next few years. The additional capacity will power electric windshield wipers, hood-opening devices, window and seat-operating devices, and raise and lower tops.

House opponents of the St. Lawrence Seaway still claim they have sufficient votes to kill the new bills approving construction—with or without waterway tolls. A bill sponsored by Sen. Vandenberg is expected to gain Senate approval early next year, they concede.

Reclamation Regional Offices Instructed to Rush Projects

Fiscal 1948 Goal for Construction Work Is $195,000,000 —Supplemental Funds Will Be Needed—Appropriations from Congress for Specific Projects Cannot Be Interchanged

BUREAU of Reclamation regional offices have been instructed to proceed on a "full-steam-ahead" basis on the $195,000,000 in construction work set as the goal for fiscal year 1948. The Bureau has also revealed the specific work to be done on its many projects.

This year's construction is expected to be an important step in the $1,500,000,000 of uncompleted authorized work for the development of Western irrigation, hydroelectric power, and related resources.

Bureau operations are aimed at substantially achieving the long-range goal for 1954. It contemplates both full and supplemental irrigation water supplies for 3,875,000 acres of land, the installation of 2,250,000 kw of hydroelectric power capacity, and other stream development benefits such as flood, salinity, and silt control, fish and wild life, and recreation.

At recent sessions Congress has appropriated specific amounts of money for each project listed on the 1948 construction schedule, and the funds cannot be interchanged.

The $195,000,000 work schedule is laid out so as to accommodate an economical rate of construction on all projects. At least five of the major projects are expected to run out of funds before the end of the fiscal year. They will require supplemental appropriations totaling about $36,000,000 to keep going. These five projects are: Columbia Basin and Yakima-Roza in Washington, the Colorado-Big Thompson in Colorado, Davis Dam on the Arizona-Nevada border, and the Central Valley project of California.

Restrictions which the last Congress placed on the 1948 program include decentralization of design and specifications services. Since financial limitation was placed on the engineering services which can be provided in the Denver engineering offices, delegation of design duties to field offices has begun in a manner to keep the lost time and expense to a minimum. Because the last Congress also ordered curtailment of "force account" work, some projects where available funds are not sufficient to let additional contracts will not proceed.

Power projects to be advanced and the principal work to be done on these jobs, state by state, are as follows:

Arizona-California — Final minor construction of Parker dam, power house, and transmission facilities.

Arizona-Nevada—Reduced-scale construction of Davis dam and transmission lines until available funds are exhausted.

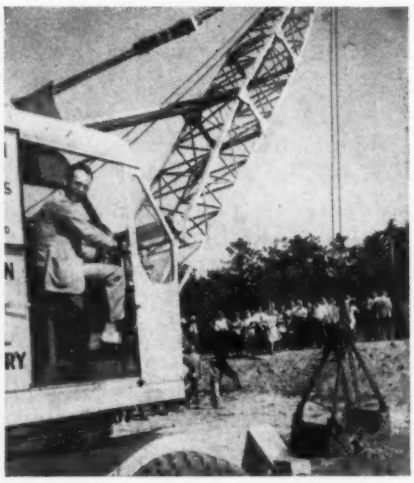
California—On Central Valley project installation of drum gates, penstocks, and two generators in Shasta Dam and gates and other appurtenances on Friant dam will be virtually completed; two generators will be installed at Keswick Dam; and construction of part of two transmission lines and work on a tap line will be started.

Kings River: Examination and surveys together with negotiations of repayment contracts to go ahead.

Colorado—Colorado-Big Thompson: Estes Park aqueduct and power system; build transmission lines.

Montana—Start Hungry Horse dam. award turbine and generator contracts. Construct Glendive-Miles City and Fort Peck-Williston transmission lines and substations.

New Mexico-Texas—Construction of



BREAKING GROUND—Dr. Lyle B. Borst, who designed and will operate the atomic pile at Brookhaven Laboratory, Upton, N. Y., becomes picture conscious as he operates the steam shovel at the recent groundbreaking exercises

transmission line and substation of Rio Grande project.

Washington—On Columbia Basin project, no new contracts, but all existing contracts will continue until funds are exhausted; complete installation of three generating units in left powerhouse at Grand Coulee dam and work on auxiliary features such as switchgear.

Wyoming — Continue Boysen dam and Kortes dam.

In addition to dam construction, Missouri River Basin funds are available to Regions 6 and 7 to complete detailed investigations and preconstruction work to bring new units to the construction stage. Missouri Basin program also includes $2,600,000 for construction of transmission lines to deliver power to construction sites and to publicly owned power users in critical power areas.

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Award Contracts on Pasco Unit of Columbia Basin

Award of contracts totaling $159,199 for completing facilities to pump water to the 5,361-acre Pasco unit of the million-acre Columbia Basin project in eastern Washington has been announced by the Bureau of Reclamation. However, the contractors will not be given "go ahead" orders until there is asurance of availability of funds.

Largest of the contracts is for $74,322 to Agutter Electric Co, Seattle, for constructing a 13.7-mile transmission line to serve the main pumping plant on the east bank of the Columbia River. James Construction Co of Seattle won a contract for constructing the relift pumping plants on its bid of $68,016.

General Electric Co, Denver, will furnish $7,286 worth of switching equipment and motor switchgear for the relift pumping plants. Westinghouse Electric Corp, Denver, will supply transformers, lightning arrestors, and motor starters at a cost of $6,581. Pumps for the plants are being constructed by Peerless Pump Division, Food Machinery Corp, Los Angeles, under a previously awarded $25,976 contract.

Allison Steel Manufacturing Co, Phoenix, Ariz., was granted a $2,994 contract for steel structures for a substation and switchyards at the Pasco pumping plant.

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Franchise Renewed

The franchise of the Iowa Public Service Co. in Schleswig, Iowa, has been renewed for 25 years at a recent election. The vote was 213 to 1.

Utilities Serving 300,000 Customers

(Based on figures in 1947 McGraw Central Station Directory)

1.	Consolidated Edison Co, New York, N. Y.	2,614,409
2.	Pacific Gas & Electric Co, San Francisco, Calif	1,127,942
3.	Public Service Electric & Gas Co, Newark, N. J	1,064,509
4.	Commonwealth Edison Co, Chicago, Ill	1,059,282
5.	Detroit Edison Co, Detroit, Mich	834,411
6.	Philadelphia Electric Co, Philadelphia, Pa	810,168
7.	Southern California Edison Co, Los Angeles, Calif	709,520
8.	Los Angeles Dept of Water & Power, Los Angeles, Calif.	618,646
9.	Consumers Power Co, Jackson, Mich	547,621
10.	Pennsylvania Power & Light Co, Allentown, Pa	456,210
11.	Boston Edison Co, Boston, Mass	446,797
12.	Northern States Power Co, Minneapolis, Minn	439,162
13.	Virginia Electric & Power Co, Richmond, Va	390,290
14.	Union Electric Co of Missouri, St. Louis, Mo	383,983
15.	Duquesne Light Co, Pittsburgh, Pa	380,858
16.	Cleveland Electric Illuminating Co, Cleveland, O	377,977
17.	Public Service Co of Northern Illinois, Chicago, Ill	364,976
18.	Consolidated Gas, Electric Light & Power Co, Baltimore, Md.	351,583
19.	Ohio Power Co, Canton, O	330,077
20.	Duke Power Co, Charlotte, N. C.	325,000
21.	New York State Electric & Gas Corp, Ithaca, N. Y	318,350
22.	Buffalo Niagara Electric Corp, Buffalo, N. Y	317,597

VEPCO Rate Reductions Ordered by State Board

Residential customers of Virginia Electric & Power Co will save close to $375,000 annually under new rates ordered by the Virginia Corporation Commission. For industrial and commercial users, there will be a 5 percent monthly discount but only for a year from August 31. These consumers are expected to save about $1,025,000 during the year.

In ordering the new rates the three-man state board fought off the League of Virginia Municipalities and Mayor Edwards of Richmond who wanted to sit in on the rate-making investigation which the commission has been carrying on for months. Municipal officials had been seeking large rate reductions. Jack G. Holtzclaw, VEPCO president, opposed any rate cuts because of $90,000,000 construction planned for the next five years.

The commission increased the utility's rate base from $110,927,745 to $117,915,061. Then after setting new rates, the board said, "It is estimated that this schedule of rates will result in a rate return which will be slightly less than 6 percent calculated on the depreciated investment cost of the company's property."

The new residential rates will apply in all parts of Virginia except the Alexandria-Arlington area. Rates here are now lower than the new schedule provides. The commercial and industrial rates are higher than elsewhere. This situation has prevailed since VEPCO took over the area in 1939.

The old rate schedule was: First 50 kwhr, 5 cents per kwhr; next 100 kwhr, 2.9 cents; next 100 kwhr, 1.9 cents; all over 250 kwhr, 1.5 cents. Effective September 1, the schedule will be: First 50 kwhr, 5 cents per kwhr; next 150 kwhr, 2.5 cents; all over 200 kwhr, 1.5 cents.

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Arkansas Power & Light Buys Ordnance System

An electrical distribution system at the Arkansas Ordnance Plant, Jacksonville, Ark., has been sold to the Arkansas Power & Light Co, the War Assets Administration has announced. Because part of the $300,000 system had been removed, it was appraised at $116,000. Sale price was $110,000.

Under sale terms, the utility will maintain enough of the system to service the ordnance plant area. Remaining facilities will be moved for use elsewhere.

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20,000-Kw Unit Ordered

Regina, Saskatchewan, has ordered a 20,000-kw. steam turbine generator for its municipal plant. The unit is to be made in England and be on the line for the winter load of 1950-51.

Northern States Power Installs Diesels for Peaks

30,000 Kw of Capacity Will Be Added at Outer Ends of System —Units Will Be Run as Needed

To provide adequate service for its customers during the coming winter, Northern States Power Co will put into operation 30,000 kw of diesel-driven generating units. The units are approximately 1,000 kw each. They are being installed at outer ends of the interconnected system extending across Minnesota and into Wisconsin and South Dakota.

Each installation is to be located at an existing distribution substation. At certain places there will be two or more units. Generation will be at either 2,300 volts or 4,160 volts, three wire, for connection to the distribution feeder bus. With this arrangement it will not be necessary to install transformers for tie to the transmission voltage. Direct supply of load in the area also has the advantage of relieving the load of present transformers and will clear some voltage troubles on transmission at several locations.

Operation of this generating capacity will depend entirely on local conditions. Operation of the diesels will be either by order of the system dispatcher or by a set schedule for each day. An hour or two of operation during the evening peak may be sufficient in some cases. During the next year, it may be necessary to run some of the diesels eight or ten hours a day. Connections to the bus are to be made through oil circuit breakers equipped with overload and reverse power relay protection and complete metering. Synchronizing will be at this switch, in the usual manner, by an operator who will remain on duty while the machine is running.

The company did not consider cost, as the arrangement is an emergency one until new central stations are in operation. Present plans call for an additional 200,000 kw of capacity by 1950.

Steel - frame, composition - covered buildings of simple construction will house all equipment. The company also has an 800-kw diesel-generator on a railroad car which can be rushed to any point on the system where there may be a transitory shortage.

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Lighting Book Available

Planned Office Lighting, the second of a series of plan books under the Edison Electric Institute Planned Lighting Program, is now available.

HOSTS AND GUESTS—Hudson, Mass., celebrated 50 years of municipal plant service by holding "open house" on August 10. The present plant now has five diesel-electric units with a total capacity of 5,525 kw. A number of executives from nearby municipal plants were guests. Left to right, V. A. Janusis, Hudson commissioner; Fred Dowd, superintendent, Belmont (Mass.) Electric Light Department; A. L. Shortsleeves, Hudson commissioner; Edward Splan, manager, South Norwalk (Conn.) Electric Light Department; Thomas A. Walsh, manager, Hudson Light & Power Department; F. S. O'Connor, chairman, Hudson Public Works Department; Willard Allen, chief engineer, Hudson plant; and A. L. Pierce, manager, Wallingford (Conn.) Electric Light Department

Detroit Department Stores Denied Rate Reductions

Michigan Public Service Commission has dismissed the application of 16 Detroit department stores which sought rate reductions from Detroit Edison Co. The Commission dismissed the applications because the companies had failed to state a cause for a rate reduction in their complaint. The PSC indicated that another complaint with more information could be filed.

The petitioners charged a "gross inequality in the applications of reductions to the entire rate structure." They claimed that from 1930 to 1947, rates of small users had been reduced, but not those of larger customers. The company maintains, however, that rate reductions during the 17-year period were approved by the commission and were based on cost of service.

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Ohio Public Service Co Improvements at Marion

Ohio Public Service Co has begun a program to improve facilities in its Marion Division. At present the power requirements of the division are being met by the Scioto plant, located south of Marion. While the power supply is ample, the plant is practically isolated from the rest of the system.

To tie in the Scioto plant with the company's other six plants and with transmission facilities of several neighboring systems, a new transmission line will be erected. This line, about 41 miles long, will stretch from the present high-voltage lines at Ashland to a new substation at Marion.

The substation will be named in memory of C. C. Roberts, a former president of Marion-Reserve Power Co which in 1946 became a part of the OPS system. The capacity of the substation will be 25,000 kva. It will step down the voltage from 132,000 to 33,000 and 13,000 volts for distribution.

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Arizona Co-op Enjoined from Private Utility Area

The Ma-Yu Electric Cooperative has been permanently enjoined by the Arizona Superior Court from further construction of an electric plant, line, and system in western Maricopa County.

Central Arizona Light & Power Co had brought an injunction suit against the co-op which started work eight months ago on 400 mi of power lines in eastern Yuma and western Maricopa Counties. The court ruling also said that the Arizona company may extend its lines and system to serve the area in controversy.

Central Arizona sued shortly on the allocation of $790,000 to the co-op by REA. A Ma-Yu official said that a supreme court appeal is planned.

AEC Takes Over One of Last Atomic Jobs in Military Hands

Research Project on Use of Nuclear Energy for Propulsion of Aircraft Now Part of Commission's Activities—Military Attitude of AEC Driving Away Friends Who Supported It

THE Atomic Energy Commission is scheduled to take over one of the last atomic programs still in military hands. The program to be transferred is NEPA (Nuclear Energy for Propulsion of Aircraft)—a research project carried on by the Air Forces to develop an atomic-powered plane.

Fairchild is the organizer and prime contractor. Several other aircraft and engine firms are subcontractors. Now about a year old, NEPA has been pretty much a stepchild, has had low priority on manpower.

This month the top-level Army-Navy Joint Research and Development Board reviewed preliminary NEPA results, approved, and gave a definite go-ahead for engineering plans.

At the same time, JRDB recommended that the Fairchild contract be taken over by the Atomic Energy Commission to be knit into the priorities on manpower and material governing the whole atomic program.

Air Force Generals Furious

Air Force generals are furious. But they're keeping the peace, seeing little hope of bucking the JRDB directive. They're concentrating on keeping a voice in administration of the contract, will go to the White House if necessary to get it.

Transfer of NEPA will still further increase AEC's concentration on military applications of atomic fission.

Weapon development already accounts for something like 90 percent of commission activity. Projects for peaceful utilization of nuclear energy are being pushed ever farther into the background.

This trend is in part an inevitable reflection of international strains. But partly, too, many people close to the commission insist, it reflects the impulse of the commission to prove it can be more military than the military.

One effect of AEC's present emphasis is that it has hardly a friend in Washington.

AEC is still under heavy fire from the Congressional group—most vocal around the un-American committee—which wants to put the atom under military control.

The Armed Forces are still sniping around corners at AEC.

And the Commission's one-time friends—the people who fought for civilian control of the atom and for confirmation of the present commission—are turning against it. They feel betrayed. They say the civilian AEC is developing the same narrow weapon-mindedness they feared would result from military control.

Ironically, almost the only official voice still insisting that industrial atomic power—not tied to particular locations or dependent on continuous fuel supply—may prove as important in war as bombs themselves is that of Admiral Parsons, Navy's Director of Atomic Defense.

The resulting sense of isolation is having a debilitating effect on the commission itself.

Officials, government and private, who deal with AEC people report a caginess, an unwillingness to commit themselves, a lack of verve.

They say that when a decision is required, the tendency in AEC is to think first of the possibility of criticism, second of the need for action. And coupled with this is a readiness to draw the mantel of security around economic and administrative policies far removed from bomb technology.

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Co-op Ordered to Bargain with IBEW by NLRB

An order to bargain collectively with the International Brotherhood of Electrical Workers, AFL, has been issued against the Tishomingo County Electric Power Association, Iuka, Miss., a co-operative, by the National Labor Relations Board.

The dispute revolved around strikes in November, 1944, and February, 1945, and the discharge of two striking linemen, A. T. Scruggs and N. H. Barnes.

The board directed the co-op to bargain with IBEW as agent for construction, operation, and maintenance employees, including linemen and meter readers, despite the employer's contention that seven of the eight employees now working in the bargaining unit have stated that they "do not want and never have wanted a union." The union's failure to maintain its majority status, NLRB said, must be attributed to the unfair labor practices engaged in by the co-op.

Scruggs and Barnes must be reinstated in their jobs and recompensed for any loss in pay suffered because of the discrimination against them and union activity.

ATOMIC PILE FOR BROOKHAVEN LABORATORY—Dr. Lyle B. Borst, designer of the atomic pile now under construction at Brookhaven Laboratory, Upton, N. Y., points out the features of the pile on a model. Left to right are Dr. Borst; Sumner T. Pike and William W. Waymack, members of the Atomic Energy Commission; and Dr. Philip M. Morse, director of the Brookhaven Laboratory

IBEW Will Sign No-Strike Pacts with Electric Utilities

Utilities Must Adopt Voluntary Conciliation and Arbitration as Exclusive Means of Settling Disputes—President Tracy Announces Union Will Continue to Oppose Taft-Hartley Act

THE International Brotherhood of Electrical Workers, AFL, will operate under the Taft-Hartley Act and will continue to sign no-strike contracts with electric utilities where voluntary conciliation and arbitration is adopted as the exclusive means of settling disputes.

The IBEW action came at a meeting in Washington this week of 150 international officers of the union. President Dan W. Tracy announced it.

IBEW is the second big craft union to take this position in recent days. The International Ladies Garment Workers Union, AFL, advised its locals, recently, to continue to sign no-strike contracts. By contrast, many CIO unions have announced the intention of making no use of Taft-Hartley procedures, and of refusing to make no-strike agreements.

Under the new policy, IBEW will register as required by the act. This will include affirmations that none of its officers is a Communist or Communist supporter.

In announcing its new policy, IBEW emphasized the necessity for its locals to abide completely by a rule requiring IBEW approval of any strike or work stoppage. It added that the International Union recommends and will approve no-strike agreements:

1. "Where the employer has agreed to a legally valid closed shop, or a real union shop. Owing to our inability to determine the value of the so-called 'union shop' authorized under the special election procedures of the Taft-Hartley Act, prior to the issuance of intepretations by NLRB, we do not recommend at this time that no-strike clauses should be inserted in agreements which provide only this new type of union security.

2. "In agreements with public utility companies which provide for voluntary arbitration as the exclusive means of settling questions, disputes or controversies and for the prevention of strikes. Such agreements must also absolve the union of responsibility for acts of nonmembers of the union. The responsibility of the union under such agreements should be limited to the exercise of its available disciplinary powers over union members under the Taft-Hartley Act."

The new program also recommended "that an approved clause for voluntary conciliation and arbitration procedures should be provided for in all existing and future IBEW agreements." The entire new program was described in an IBEW document which contained model contract clauses governing the new recommendations.

Tracy made it unmistakable that IBEW's position against the Taft-Hartley Act is not in the least weakened by its decision to go along with it. He renewed a pledge to fight for repeal of the act and to attack in the courts any provision of it which is deemed unconstitutional.

TEACHERS BEING TAUGHT—Clyde Troxell of the Trouble Department of the Kansas City Power & Light Co explains the purpose of tools used by linemen of the company to a group of public school teachers who visited the utility as part of their summer course on "How Kansas City Earns a Living"

Canadian Output Record Set for First 6 Months

Canadian central electric stations ended the first half of 1947 with a total output of 22,863,288,000 kwhr. This was 2,177,059,000 kwhr above the 20,686,229,000 kwhr in the first half of the record year 1946.

Other records announced at the same time by the Dominion Bureau of Statistics were a June output of 3,755,862,000 kwhr, and a June primary power consumption of 3,016,921,000 kwhr. Primary consumption for the first half of 1947 was 18,055,100,000 kwhr, slightly below the 18,136,521,000 kwhr of record 1944.

Indicative of the scarcity of power were the exports to the United States. These were only 1,070,529,000 kwhr for the first six months of 1947, the lowest figure since before the war.

The following statistics are in thousands of kilowatt-hours:

Period	1947	1946
Six months	22,863,288	20,686,229
Primary	18,765,100	16,786,060
Secondary	4,098,188	3,900,169
Export to U. S.	1,070,529	1,299,347
June	3,755,862	3,415,306
Primary	3,134,620	2,621,976
Secondary	621,242	793,330
Exports to U. S.	192,227	229,685
May	3,918,499	3,615,777
Primary	3,280,237	742,089
Secondary	638,262	873,688
Exports to U. S.	188,648	237,035

Will Promote Television

Aiming at capitalizing on an opportunity St. Louis has to become a major television center, the executive committee of the St. Louis Chamber of Commerce recently authorized the organization of a television promotion committee to advance interest in the new industry. J. W. McAfee, president of the Union Electric Co., St. Louis, is to be chairman.

Public Power Group Advised to Get Bonneville Act Changed

Administrator Raver Says Only Alternative Is to Provide Own Sources of Power—Congressman Mack Attributes Cuts in BPA Funds to Eastern Representatives of Both Parties

POINTING OUT that the Bonneville Act put the responsibility on BPA to serve public power agencies on a priority basis but did not give the administration authority to carry out this responsibility, Administrator Paul J. Raver last week told representatives of public utility districts and municipal systems that it was up to them to get the act amended or else provide their own sources of supply. The advice was given at the annual meeting of the Northwest Public Power Association at Longview. Wash.

Dr. Raver had reference to the recent cut in BPA's budget by Congress. Without criticizing any group or individual, he said that if Congress wants to amend the act it should do so. However, he said, it is wrong to nullify it through action of appropriation committees. He advocated leaving BPA some of its revenues for needed capital improvements. Now the revenues must be turned into the Treasury. Capital improvements are made with special appropriations from Congress.

Mack Blames Both Parties

Rep. Russell Mack, Washington Republican, stated that opposition to BPA funds was non-partisan. He blamed Eastern Congressmen, inspired by Eastern utilities who are jealous of low BPA power rates. He also blamed some Eastern manufacturers who fear losing their markets to the West.

Jack R. Cluck, PUD attorney in Seattle, advised that in PUD management a sharp line should be drawn between the functions of the policy-making board and the management. The civil service principle, he said, should govern the personnel under the management.

The association created the Milton Hunt McGuire award for engineering accomplishment. The first award was made to Hugh P. Currin, engineer of the Eugene, Ore., municipal system. McGuire is the veteran manager of the McMinnville, Ore., municipal system and a former vice-president of the association.

S. B. Crary. General Electric Co., pointed out that electric system development generally went through three phases of development. These, he said, were extension of lines, strengthening the reliability of the system, and reduction of cost. He feels that most PUD's are in the second phase which gives opportunity for ingenuity and judgment.

W. W. Sproul, Westinghouse Electric Corp. cited advantages of the new CSPB distribution transformers having built-in lightning protection and internal thermal protection. These transformers can be loaded by copper temperature and permit the economies coming from safe secondary banking.

W. M. Dusenberry, Line Material Co, told of trends in street and highway lighting. He pointed out the tremendous job to be done in this field which was so badly neglected during the depression and during the war.

In a discussion of the materials situation, Albert Lane, General Electric Supply Corp. said that the copper shortage should be nearly over by the end of the year. ACSR and copper-copperweld composites, and distribution transformers will remain in short supply for some time. Certain insulators are likewise in short supply. Pole line hardware, poles, crossarms, and guy strand are rapidly catching up on demand.

Clinton T. Hurd, manager, Cowlitz County PUD No. 1, Longview, was elected president. Other officers are R. B. Boals, superintendent, Eugene Water Board, vice-president; and John R. King, Seattle City Light, secretary-treasurer.

MANAGER—John C. Franklin, who has been appointed manager of the Atomic Energy Commission's Oak Ridge, Tenn., division

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Seattle Will Carry Ross Dam Work to Completion

City officials of Seattle, Wash., have decided to proceed immediately with construction of the third unit of City Light's Ross Dam on the Skagit hydroelectric project at an estimated cost of $7,000,000.

The new unit will bring the structure to its full final height of 540 ft., to provide 1,400,000 acre ft. storage. Work now under way will bring the height to 475 ft., with 676,000 acre ft. storage. Completion is scheduled this summer.

The necessity for uninterrupted continuance of the dam construction was stressed by E. R. Hoffman, City Light superintendent.

"Our customers are using more current than we are producing, and we have to buy," he declared. "Our hydro capacity is 222,000 kw., but our maximum load last winter was 247,000 kw. and next winter it will be 270,000 kw."

The city has about 38,000 kw. of steam-produced power but it is costly and fuel supply is a difficult problem.

No power will be generated at the dam until completion of the third step in an estimated two years, a fact which makes it desirable to avoid delay, Hoffman said.

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Municipal Sells to PPD

By a 522-to-258 vote, Hastings, Neb., citizens have approved sale of the municipal transmission and distribution system to the Southern Nebraska Rural Public Power District. The price was $50,000. The system serves Assumption, Ayr, Holstein, Pauline, Roseland, and a number of rural consumers.

•

Distribution Systems Sold

Firth, Virginia, and Ong, Neb., have voted to sell their electric distribution systems to Consumers Public Power District and receive retail service from the district which previously had served the municipal systems with electricity at wholesale.

April Electric Energy Sales Rose 16.0 Percent

Sales of electric energy to ultimate customers in April, 1947, totaled 17,664,962,000 kwhr, compared with 15,233,420,000 kwhr in April, 1946, Edison Electric Institute reports.

Classification of Sales, April, 1947, and Change from 1946

Kilowatt-Hour Sales April	Million Kwhr 1947	1946	% Change
Residential or domestic...	3,572	3,094	+15.4
Rural (Distinct rural rates)	421	328	+28.4
Commercial or industrial			
Small light & power....	3,070	2,595	+18.3
Large light & power....	9,264	7,916	+17.0
Street & highway lighting..	178	174	+ 2.5
Other public authorities..	494	483	+ 2.4
Railways & railroads			
Street & interurban.....	396	374	+ 5.9
Electrified steam railroads	222	216	+ 2.4
Interdepartmental	46	52	—11.0
Total to ult. customers..	17,665	15,233	+16.0

Revenue from ultimate customers amounted to $310,762,400 in April, compared with $278,447,400 in April, 1946, an increase of 11.6 percent.

For the twelve months ended April 30, 1947, the average use per customer advanced to 1,368 kwhr from 1,276 kwhr for the preceding year, an increase of 7.2 percent; the average annual bill to $43.23 from $42.62, an increase of 1.4 percent; revenue per kwhr dropped to 3.16 cents from 3.34 cents, a decrease of 5.4 percent.

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Utility Operating Revenues Advance 12.8% in May

Electric operating revenues of the larger privately owned electric utilities in the United States in May, 1947, totaled $294,795,000, compared to $261,339,000 in May, 1946, an increase of 12.8 percent, the Federal Power Commission has reported.

Revenue deductions (including operating expenses, depreciation and taxes) were $232,168,000 or 16.4 percent over those of May, 1946.

Gross income, including other utility operating income, amounted to $74,454,000, an increase of 4.7 percent for the month. Net income was up 16.2 percent to $55,298,000 compared to $47,600,000 reported for May, 1946.

•

New June High Peak Loads

The aggregate of major electric utility system peak loads for June, 1947, totaled 41,699,000 kw, according to figures released by the Federal Power Commission. These were the highest June loads experienced to date. The June peak loads, totaling 12.3 percent higher than June of last year, were slightly above the previous month's total. A war-time maximum of 38,252,630 kw was reached in January, 1945, and a record high of 43,173,808 in December, 1946.

Corresponding energy requirements for June amounted to 19,917,000,000 kwhr, a gain of 14.3 percent over June of last year, but somewhat below the 20,391,324,000 kwhr in the preceding month.

•

From 30 to 90,000 Kw.

Arkansas Power & Light Co will increase the capacity of its recently dedicated Cecil Lynch steam plant at Pine Bluff from 30,000 to 90,000 kw. A 60,000-kw. unit has been ordered from General Electric Co. for installation by the end of 1949.

•

13 Cents More an Hour

Wage increases averaging 13 cents an hour for 1,075 hourly paid employees of the Indianapolis Power & Light Co have been granted in union contract negotiations.

New Brunswick Board Buys Division of Utility

As the first step in a program of rural electrification for Charlotte County, N. B., which borders Washington County, Me., the New Brunswick Electric Power Commission has bought the Charlotte Division of the Maritime Electric Co.

The company has been supplying St. Stephen, Milltown, and St. Andrews, as well as several thousand rural customers, with power purchased from Canadian Cottons, Ltd, Milltown.

As the basis for a new rural system a 71-mile transmission line will be built from the Musquash, N. B., hydro station to St. Stephen.

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Bibliography Published

The Agricultural Engineering Department of the Agricultural and Mechanical College, College Station, Tex., has published a bibliography on farm electrification which lists college bulletins on rural electrification as well as magazine articles and commercial publications.

MEETINGS

Edison Electric Institute—Accident Prevention Committee, EEI, 420 Lexington Ave, New York, September 8-9; Meter and Service Committee, joint meeting with the Meter and Service Methods Committee of the Association of Edison Illuminating Companies, Lord Baltimore Hotel, Baltimore, September 22-24, Purchasing and Stores Committee, Henry Grady Hotel, Atlanta, Ga., September 29-October 1; Prime Movers Committee, Benjamin Franklin Hotel, Philadelphia, October 6-7; Electrical Equipment Committee, Benjamin Franklin Hotel, Philadelphia, October 6-7; Transmission & Distribution Committee, Benjamin Franklin Hotel, Philadelphia, October 9-10. H. S. Bennion, managing director, 420 Lexington Ave, New York 17, N. Y.

Pennsylvania Electric Association—Annual meeting, Benjamin Franklin Hotel, Philadelphia, September 23-24. A. B. Millar, managing director, State Street Bldg, Harrisburg, Pa.

International Association of Electrical Inspectors—Western Section, Mount Royal Hotel, Montreal, Canada, October 13-15. F. H. Moore, secretary, 320 North Meridian St, Indianapolis, Ind.; Eastern Section, Seaside Hotel, Atlantic City, October 20-22. F. N. M. Squires, secretary 85 John St, New York 7, N. Y. Southern Section George Washington Hotel, Jacksonville, Fla., October 27-29. A. M. Miller, secretary, 910 West 30th St, Richmond 24, Va.

Previously Listed

American Institute of Electrical Engineer—Pacific General Meeting, San Diego Hotel, San Diego, Calif., August 26-29, Middle Eastern District Meeting, Biltmore Hotel, Dayton, Ohio, September 23-25; Midwest General Meeting, Congress Hotel, Chicago, November 3-7.

American Society of Mechanical Engineers—Fall Meeting, Hotel Utah, Salt Lake City, September 1-4.

Rocky Mountain Electrical League—Annual Convention, Townsend Hotel, Casper, Wyo., September 4-6.

National Electrical Contractors Association—Annual Meeting, Palace Hotel, San Francisco, September 8-10.

Instrument Society of America—Second Annual Conference and Exhibit, Stevens Hotel, Chicago, September 8-12.

Illuminating Engineering Society—Technical Conference, Roosevelt Hotel, New Orleans, September 15-19.

Indiana Electric Association—Annual Convention, French Lick Springs Hotel, French Lick, Ind., September 17-19.

International Association of Electrical Inspectors—Northwestern Section, Eugene Hotel, Eugene Ore., September 22-24. Southwestern Section, Mission Inn, Riverside, Calif., September 29-October 1.

Association of Iron and Steel Engineers—Annual meeting, William Penn Hotel, Pittsburgh, September 22-25.

National Research Council—Conference on Electrical Insulation, Massachusetts Institute of Technology, Cambridge, Mass. September 24-27.

Fluorescent Lighting Association—First Annual Cold Cathode Fluorescent Lighting Exhibit, Commodore Hotel, New York, October 7-9.

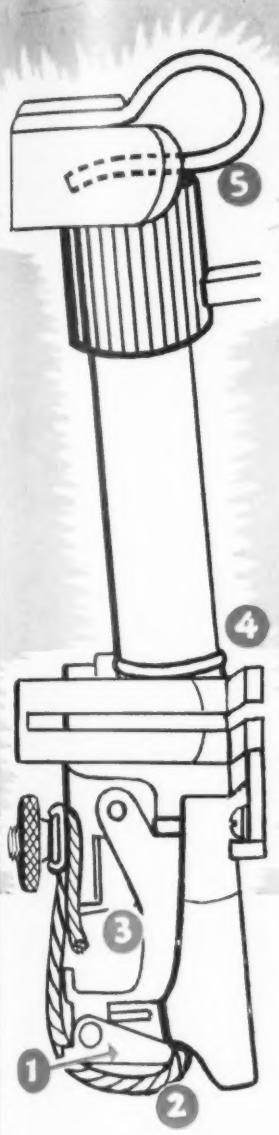
National Farm Electrification Conference—Claypool Hotel, Indianapolis, October 7-8.

International Association of Electrical League—Annual Conference, Statler Hotel, St. Louis, October 8-11.

Pennsylvania Electric Association—Transmission & Distribution Committee, Fort Ligonier Hotel, Ligonier, Pa., October 16-17; Prime Movers Committee, Benjamin Franklin Hotel, Philadelphia, October 23-24.

American Standards Association—Annual Meeting, Waldorf-Astoria Hotel, New York, October 21-23.

How L-M "PVD" Fuse Cutouts *assure* Positive Vertical Drop



• L-M "PVD" Fuse Cutouts provide instant action in all kinds of weather. Operation is independent of the door . . . working parts are always protected against weather, dirt, and corrosion, because the door always remains closed, even after the fuse has blown.

The indicating feature, easily seen from the ground, saves hunting. This is particularly important when fusing three-phase banks. Re-fusing is quickly done, in one minute, on the pole, even with gloved hands. Or a spare fused "PVD" door is hooked on in six seconds.

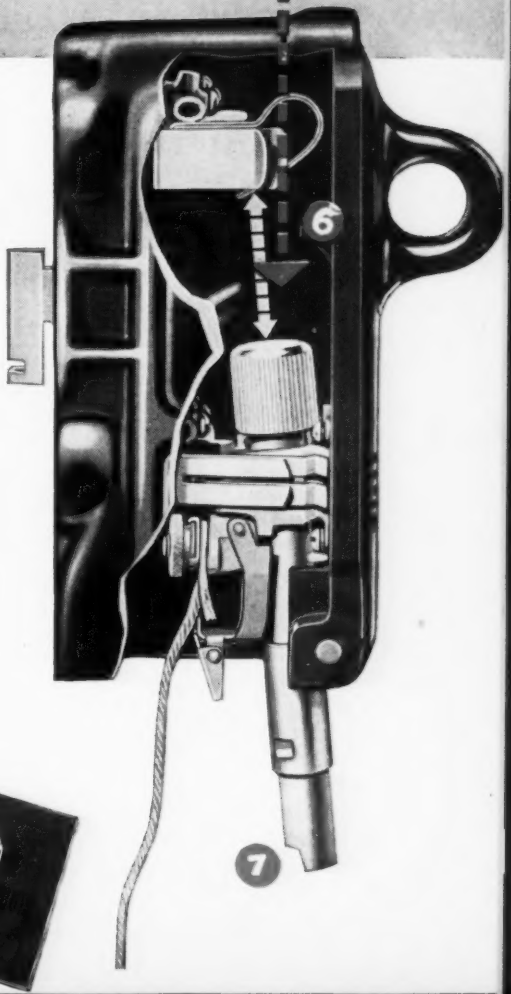
How it Works

Diagram at left shows the working parts. As fuse link blows, link flip-out device (1) snaps out the blown link (2), assuring instant separation of blown link parts before tube can start to drop.

When flip-out device snaps down, it releases latching lever (3) which releases tube (4), permitting it to drop.

Upper contact spring (5) follows tube part way, giving extra time for arc to clear completely inside the tube before contacts separate.

Large air gap between contacts [see illustration at right—(6)] prevents arcing, assures long service for contacts. Cartridge at indicating position (7) is easily seen from the ground—saves hunting, saves time.



Made in Four Sizes

5000 V delta, 50 amps.
75/12500 V Gr. Y, 50 amps.
5000 V delta, 100 amps.
7500/12500 V Gr. Y, 100 amps.

Write for L-M Bulletin 44-101

Details, specifications, applications, of the wide variety of L-M Fuse Cutouts. Line Material Co., Milwaukee 1, Wis.

LINE MATERIAL
FUSE CUTOUTS & FUSE LINKS

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters
Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street Lighting Equipment

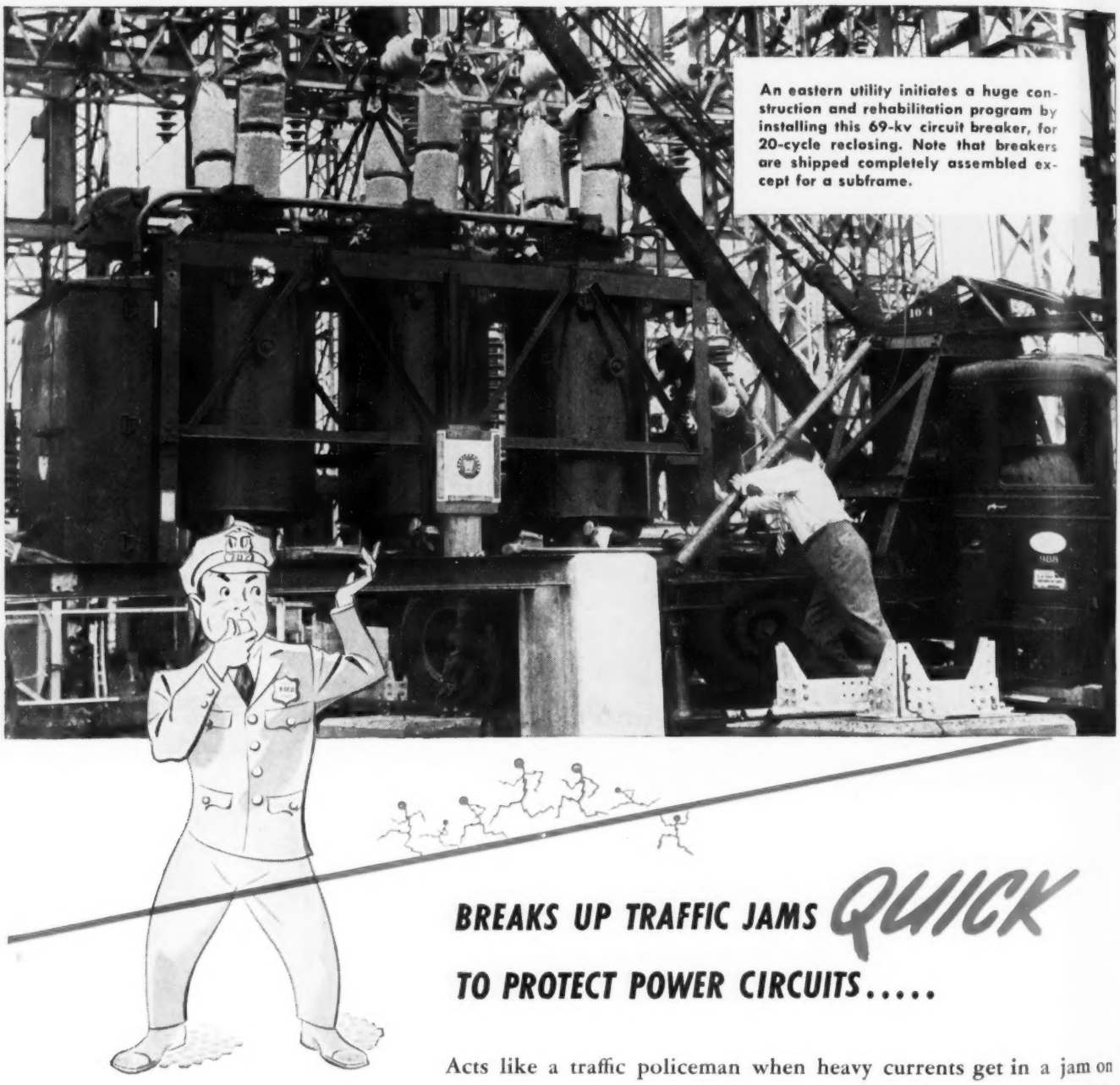
REA Generating Loan Applications

Name	Location	Date	Capacity, kw	Type	Loan For	Est Cost ($1,000)
Homer Co-op Assn	Homer, Alaska	June '47	400	Diesel	Acquisition	$10
White Mountain EC	Lakeside, Ariz	July '41	60	Diesel	Acquisition	5
			72	Hydro		1
Sulphur Springs Valley EC	Willcox, Ariz	Jan. '47	1,000	Diesel	Addition	233
Graham County EC	Pima, Ariz	Apr. '47	1,500	Diesel	Addition	170
Borrower Not Inc	Arizona	Jan. '47	342	Diesel	Acquisition	25
Borrower Not Inc	Arizona	July '47	500	Diesel	Addition	75
Trice EC	Eloy, Ariz	June '47	10,000	Diesel	New	1,800
Verde EC	Cottonwood, Ariz	Apr. '46	600	Diesel	New	120
Klamath River EC	Hornbrook, Calif	July '47	100	Diesel	New	10
Southeast Colo. Pwr. Assn	LaJunta, Colo	June '46	5,000	Diesel	New	900
Y-W EC	Yuma, Colo	Oct. '46	1,050	Diesel	Acquisition	80
Kit Carson Elec. Assn	Burlington, Colo	Oct. '46	262	Diesel	Acquisition	30
Clay EC	Keystone Heights, Fla	Nov. '46	2,000	Diesel	Addition	400
Fla. Keys EC Assn	Tavernier, Fla	Jan. '47	500	Diesel	Addition	100
Borrower Not Inc	Florida	Oct. '46	380	Diesel	Acquisition	20
Glidden REC	Glidden, Iowa	June '47	700	Diesel	Addition	125
Nishnabotna Valley REC	Harlan, Iowa	June '47	.....	Diesel	Addition	....
Federated Co-op. Pwr. Assn	Hampton, Iowa	May '47	15,000	Steam	Addition	2,750
Central Elec. Fed. Co-op. Assn	Pocahonatas, Iowa	May '47				
Southwestern Federated Co-op. Inc	Creston, Iowa	June '47	7,500	Steam	Addition	1,615
Central Iowa Pwr. Co-op	Cedar Rapids, Iowa	Mar. '47	20,000	Steam	Addition	3,000
Borrower Not Inc	Iowa	Oct. '46	10,000	Steam	New	1,750
Brown-Atchison EC	Horton, Kan	May '47	3,000	Diesel	New	500
Central Kan. EC	Great Bend, Kan	Aug. '46	1,000	Diesel	Addition	235
		Aug. '46	2,000	Diesel	Addition	400
Kansas EC	Hutchinson, Kan	July '41	32,000	Steam	New	3,474
Pioneer Co-op. Assn	Ulysses, Kan	July '47	1,000	Diesel	Addition	200
Borrower Not Inc	Louisiana	Nov. '46	20,000	Steam	New	3,500
Southern Maryland EC	Waldorf, Md	Nov. '46	10,000	Steam	Addition	1,700
Tri-County EC	Portland, Mich	Apr. '47	2,000	Diesel	Addition	400
Presque Isle County EC	Onaway, Mich	Apr. '47	2,500	Diesel	Addition	600
Thumb EC of Mich	Ubly, Mich	Apr. '47	2,200	Diesel	Addition	486
O&A EC	Newaygo, Mich	Apr. '47	1,400	Diesel	Addition	200
Cherryland REC	Traverse City, Mich	May '45	120	Hydro	Supplemental	50
Rural Co-op. Pwr. Assn	Maple Lake, Minn	Feb. '46	20,000	Steam	Addition	3,000
West Miss. Elec. Pwr. Assn	Greenwood, Miss	Aug. '41	6,000	Steam	New	1,050
M&A Pwr. Co-op	Missouri	1945	30,000	Steam	New	4,500
Mo.-Iowa Elec. Pwr. Co-op	Missouri	Mar. '45	10,000	Steam	New	1,500
Borrower Not Inc	Missouri	Feb. '47	20,000	Steam	New	3,500
Borrower Not Inc	Missouri	Jan. '46	20,000	Steam	New	3,500
Vigilante EC	Dillon, Mont	July '47	300	Diesel	New	50
Missoula EC	Missoula, Mont	July '47	100	Diesel	New	10
Flathead EC	Kalispell, Mont	Mar. '47	50	Hydro	Acquisition	1
McCone Cty EC	Circle, Mont	June '47	182	Diesel	Acquisition	1
Tongue River EC	Ashland, Mont	Jan. '47	445	Diesel	Acquisition	5
Southeast EC	Ekalaka, Mont	Feb. '47	180	Diesel	Acquisition	1
Niobrara Valley EMC	Spencer, Neb	July '46	50	Diesel	Acquisition	....
Niobrara Valley EMC	Spencer, Neb	July '46	70	Diesel	Acquisition	....
Niobrara Valley EMC	Spencer, Neb	July '46	25	Diesel	Acquisition	....

The Senate recently directed the Rural Electrification Administration to submit all requests for generating plant loans to Congress 30 days before approval. Following is the first list submitted. REA has emphasized that it has no intention of approving all the requests on this list

Name	Location	Date	Capacity, kw	Type	Loan For	Est Cost ($1,000)
Custer PPD	Broken Bow, Neb	Nov. '45	150	Hydro	Acquisition	$5
			200	Diesel		
Panhandle REMA	Alliance, Neb	June '46	265	Diesel	Acquisition	40
Southwest EMC	Palisade, Neb	Feb. '47	200	Diesel	Acquisition	25
Niobrara EMA	Hay Springs, Neb	Oct. '46	190	Diesel	Acquisition	5
Plains Elec. Gen. Co-op	Clovis, N. M	Dec. '43	2,800	Diesel	New	560
Socorro EC	Socorro, N. M	Feb. '47	460	Diesel	Addition	48
Continental Divide EC	Gallup, N. M	Feb. '46	600	Diesel	New	120
North Central EC	Loscerrillos, N. M	Jan. '46	600	Diesel	New	120
Cape Hatteras EMC	Buxton, N. C	July '47	400	Diesel	Supplemental	25
Tri-County EC	Carrington, N. D	Aug. '46	75	Diesel	Acquisition	....
Cheyenne Valley EC	Finley, N. D	Nov. '45	125	Diesel	Acquisition	....
Borrower Not Inc	Ohio	June '47	10,000	Steam	New	1,750
Cookson Hills EC	Stigler, Okla	Apr. '47	57	Diesel	Acquisition	0.3
Malheur Co-op. Elec. Assn	Vale, Ore	July '47	300	Diesel	New	50
Coos Elec. Co-op	Coquille, Ore	Dec. '46	200	Diesel	Acquisition	10
Allegheny Elec. Co-op	Parkers Landing, Pa	June '46	20,000	Steam	New	3,000
West River Elec. Assn	Wall, S. D	Oct. '46	550	Diesel	Acquisition	24.7
James River Valley Elec. Assn	Aberdeen, S. D	Oct. '45	10	Diesel	Acquisition	....
Bon Homme-Yankton Elec. Assn	Taber, S. D	Dec. '45	200	Diesel	Acquisition	....
La Creek Elec. Assn	Martin, S. D	June '47	375	Diesel	New	100
Farmers Elec. Gen. Co-op	Gilmer, Tex	Aug. '40	18,000	Steam	New	2,430
Borrower Not Inc	Texas	Sept. '46	3,000	Diesel	New	600
Hi-Plains Elec. Gen. & Trans Co-op	Lubbock, Tex	May '42	6,000	Diesel	New	750
			18,000	Steam	New	1,510
Garkane Pwr. Assn	Richfield, Utah	June '47	300	Diesel	New	50
		July '47	600	Hydro	Addition	300
Moon Lake Elec. Assn	Mt. Emmons, Utah	June '47	600	Diesel	New	100
Washington EC	Barre, Vt	Aug. '46	3,000	Hydro	New	1,305.5
Shenandoah Valley EC	Dayton, Va	Dec. '45	1,000	Hydro	Addition	597
Southside EC	Crewe, Va	Dec. '46	700	Diesel	Acquisition	80
			50	Hydro		
Northern Neck EC	Warsaw, Va	May '41	940	Diesel	Acquisition	20
Accomack-Northampton EC	Parksley, Va	June '47	730	Diesel	Addition	100
Chesapeake Islands EC	Tangier Island, Va	Sept. '45	620	Diesel	New	164
Inland Empire RE	Spokane, Wash	July '47	100	Diesel	New	10
Quinault Light Co	Quinault, Wash	May '47	100	Diesel	New	15
Oconto EC	Oconto Falls, Wisc	May '47	1,000	Hydro	Supplemental	150
Washington Island EC	Washington Island, Wisc	June '47	200	Diesel	Supplemental	16
Dairyland Pwr. Co-op	LaCrosse, Wisc	July '47	.....	Steam	Supplemental	431.4
			.....	Hydro	Supplemantal	350
			5,000	Diesel	Addition	935
			15,000	(Study)	Addition	2,100
Ridger Valley Elec. Assn	Mountainview, Wyo	July '44	.....	Diesel	Supplemental	30
Borrower Not Inc	Wyoming	June '47	430	Hydro	Acquisition	50
			50	Diesel		
Sublette Elec. Assn. Inc	Pinedale, Wyo	Apr. '47	140	Diesel	Acquisition	10
Tri-County REA	Sundance, Wyo	Oct. '45	150	Diesel	Acquisition	10
Virgin Islands Co	Christiansted, St. Croix, Virgin Islands	Nov. '44	234	Diesel	Addition	50

For additional information, see ELECTRICAL WORLD, Aug. 2, page 55



An eastern utility initiates a huge construction and rehabilitation program by installing this 69-kv circuit breaker, for 20-cycle reclosing. Note that breakers are shipped completely assembled except for a subframe.

BREAKS UP TRAFFIC JAMS *QUICK*

TO PROTECT POWER CIRCUITS.....

Acts like a traffic policeman when heavy currents get in a jam on power circuits. Breaks dangerously overloaded circuits in eight cycles. Westinghouse Outdoor, Frame-Mounted Oil Circuit Breakers police the system and improve service continuity.

They quench arcs quickly in exclusive "De-ion" Grids. High-speed magnetic action sweeps arc products from path of the arc. The combined action speedily deionizes arc zone . . . reduces fault clearance time, contact burning and oil deterioration, with resultant lower maintenance costs.

All parts are accessible for easy inspection or servicing. Even lowering and raising oil-filled tanks is a one-man operation with a windlass-type tank lifter.

Frame-Mounted, "De-ion" Grid Oil Circuit Breakers are thoroughly tested in the Westinghouse High-power Laboratory before shipment. They are factory-assembled with condenser bushings and contacts in place to simplify installation. For complete details, write for Booklet B-3686. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-60644

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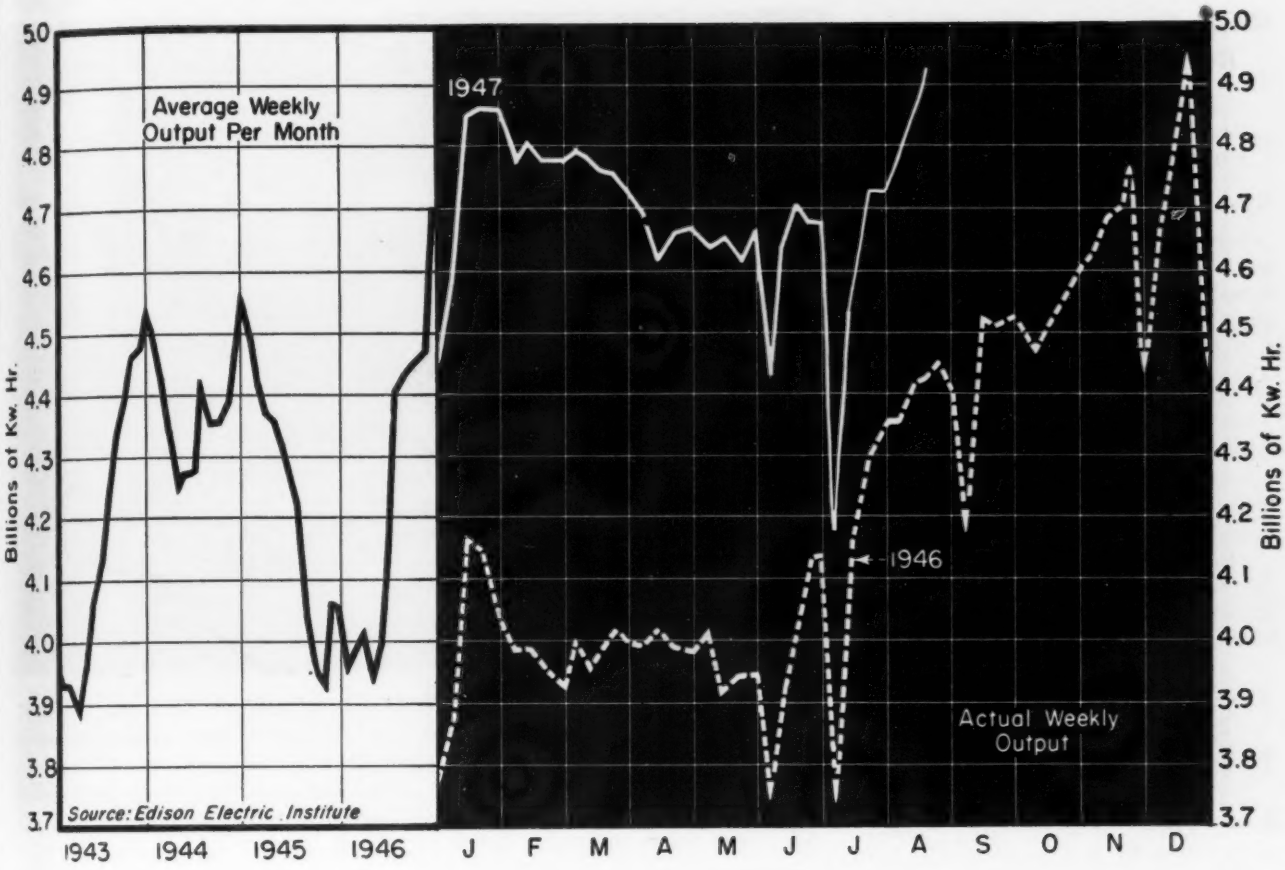
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

OUTDOOR, FRAME-MOUNTED
OIL CIRCUIT BREAKERS

15 to 69 kv • 600 to 4000 amperes • 500,000 to 1,500,000 kva



FPC Survey of Nevada Power Needs Authorized

A Federal Power Commission survey of Nevada power needs and potential power sources has been authorized by Nelson Smith, FPC chairman.

The 1947 Nevada legislative session appropriated $5,000 for the survey, which originally was to be handled by the Colorado River Commission. However, at a meeting held in mid-July in San Francisco with officials of federal power agencies, state representatives decided that a survey conducted by the FPC would be of greater value.

Representatives at the San Francisco meeting included Lesher S. Wing, of the San Francisco office of FPC; F. O. Billings, Rural Electrification Administration, Washington, D. C.; A. J. Shaver, resident engineer for the Colorado River Commission; Nevada State Engineer Alfred M. Smith; and J. V. Mueller, Colorado River commissioner member.

Senator Pat McCarran of Nevada, who notified state officials of Smith's authorization of the study, also wired from Washington that the Pacific Gas & Electric Co had agreed to send a representative to meet with him and the Colorado River Commission to work out a method by which northern and western Nevada can get additional electrical energy. Special attention will be given to a proposal for getting power from Shasta Dam, he said.

PG&E at present sells about 60,000,000 kwhr annually to the Sierra Pacific Power Co, which serves Nevada points.

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5 Ontario Hydro Projects to Up Capacity 571,500 Hp

The Ontario Hydro-Electric Power Commission now has five projects underway which will increase the capacity of the system 571,500 hp. to 2,291,500 hp. Total cost will be $93,000,000.

The projects with their capacity and year of completion are Des Joachims on the Ottawa River, 360,000 hp., 1950-51; Stewartville on the Madawaska River, 81,000 hp., 1948; DeCew Falls on the Welland Canal, 70,000 hp., 1947; Aguasabon on the Nipigon River, 53,000 hp., 1948; Ear Falls on the English River, 7,500 hp., 1948.

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Utility Gets Franchise

The Public Service Co of New Mexico has been granted a 25-year franchise by the Albuquerque, N. M., City Council. The firm will pay a gross receipts tax of 2 percent, amounting to about $50,000 a year.

Output Records Being Set

Two output records were set last week as the output for the week ended August 16 reached 4,923,000,000 kwhr. The records, Edison Electric Institute reported, were high marks for August and for the year. The greatest output of light and power companies ever recorded was the 4,940,453,000 kwhr for the week ended December 21, 1946. The total for the week ended August 17, 1946, was 4,422,242,000 kwhr; and for the week ended August 9, 1947, the total was 4,874,172,000 kwhr. For the United States, the total for the week ended August 16 was 11.3 percent higher than the output a year previous.

Weekly Output, Millions Kwhr

1947		1946		1945	
Aug. 16	4,923	Aug. 17	4,422	Aug. 18	3,939
Aug. 9	4,874	Aug. 10	4,412	Aug. 11	4,395
Aug. 2	4,806	Aug. 3	4,351	Aug. 4	4,432
July 26	4,730	July 27	4,352	July 28	4,435
July 19	4,372	July 20	4,293	July 21	4,385
July 12	4,531	July 13	4,156	July 14	4,295
July 5	4,190	July 6	3,741	July 7	3,978
June 28	4,675	June 29	4,133	June 30	4,353
June 21	4,676	June 22	4,129	June 23	4,358
June 14	4,702	June 15	4,030	June 16	4,348
June 7	4,635	June 8	3,920	June 9	4,327
May 31	4,429	June 1	3,741	June 2	4,204

Percent Change from Previous Year

	Aug. 16	Aug. 9	Aug. 2
New England	+ 4.8	+ 3.7	+ 2.7
Mid-Atlantic	+ 9.1	+ 5.8	+ 6.6
Central Industrial	+12.5	+11.5	+11.0
West Central	+14.4	+12.3	+ 9.8
Southern States	+10.2	+10.4	+ 9.7
Rocky Mountain	+14.1	+10.0	+15.0
Pacific Coast	+13.9	+16.1	+17.1
Total United States	+11.5	+10.5	+10.5

Rural Electrification Plans Revealed by Soviet Union

End of 1950 Will See Electricity Available on Third of Collective Farms; Wider Power Use Stressed

McGraw-Hill World News

A rural electrification program with the end of 1950 set as the date of its completion has been announced by the Soviet Union. At that time, it is expected that one-third of the country's 222,000 collective farms, and all of the 4,234 state-owned farms and 7,500 state-operated machine tractor stations will be electrified.

Before the war about 10,000 collectives were electrified. Many of these were damaged during the fighting, but in 1945 the electrification program began anew. By the end of 1947 it is expected that 22,000 collectives will have electricity available.

State Farms Come First

The exact number of state-owned farms and machine tractor stations electrified today has not been revealed. However, these will be electrified before the collectives. It was stated by Soviet officials that 90 percent of the tractor stations will be electrified by the end of 1948.

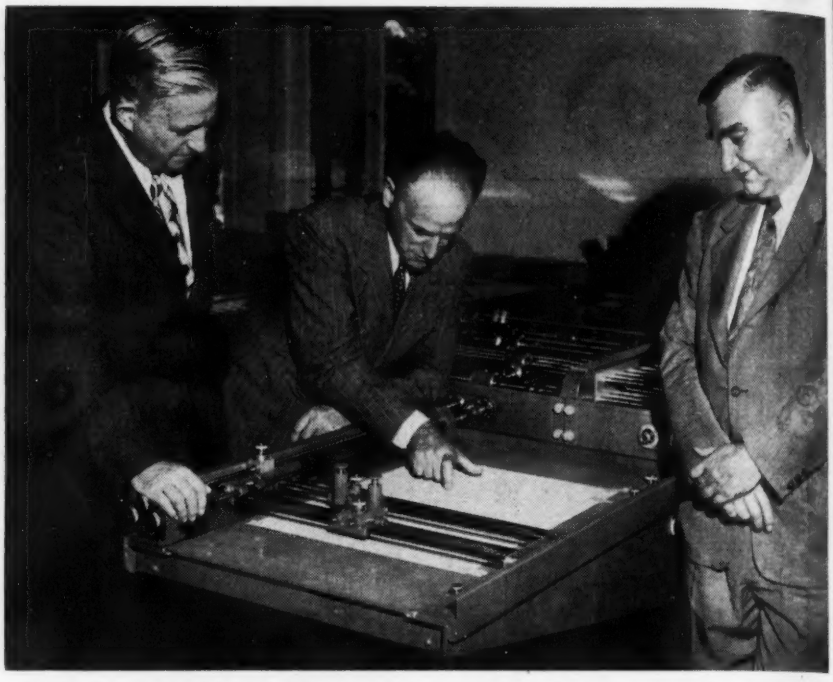
The power plants being set up are usually small, 20 kw or smaller. They are either hydro or steam, using in many cases brown coal.

In discussing the various uses of electricity on the farm, S. Schurov, head of the Soviet Ministry of Agriculture's Electrification Administration Planning Department, listed these: threshing, cleaning, and drying of grain, livestock fodder preparation, pumping of water, sheep shearing, and various applications in dairying.

Electric Power Saves Oil

With reference to grain threshing, Schurov stated that before the war more than 5,000 electric-driven threshing machines were in use. The electric method is preferred to the use of tractor-driven machinery because it is rated as being 20 percent more productive. It is also said to save about 15 lb of liquid fuel per ton of threshed grain.

Much attention will be devoted to electrification of vegetable and livestock farms established in the environs of large industrial centers. Particular emphasis is to be placed on the use of electric power and waste steam in greenhouses. The electrified hothouses developed before the war at Zaporozhye near the Dnieper power plant demonstrated the advantages of using electricity in gardening.



QUICK SOLUTION TO MATHEMATICAL PROBLEMS—S. W. Scarfe and H. P. Kuehni, General Electric Co, and Dean L. M. K. Boelter, right, of the College of Engineering, University of California at Los Angeles, look over one of two "output" tables on a differential analyzer. The machine is the first to be installed commercially by General Electric. It will be used in the Institute of Numerical Analysis at the university for high-speed industrial computing

Government Hydro Project Recommended for Uganda

Construction of a 45,000-kw. hydroelectric power station at Owen Falls, Uganda, capable of later expansion to 90,000 kw., is recommended in the report of the Uganda Electricity Survey issued recently. The same report recommends that the Government of Uganda should acquire the assets in that protectorate of the East African Power & Lighting Co.

These recommendations will, with the approval of the United Kingdom's Secretary of State for the Colonies, be put forward for adoption by the Uganda Legislative Council.

Reasons advanced for the acquisition of these assets are that the capital expenditures involved by the Owen Falls hydroelectric scheme, $17,192,000 for the complete project, would result in poor financial returns for some years and that only a government-sponsored body could successfully and economically undertake development of the required magnitude.

If it is agreeable to the East African Power & Lighting Co., it is proposed to negotiate a direct settlement, but, failing a satisfactory agreement, to refer the basis of compensation for assessment by an independent arbitrator.

Provisional figures for compensation provide for the payment of sums of $728,000 for assets and $50,800 for loss of profits during the years 1948 to 1954 and similar amounts during the years 1955 to 1960.

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Sales Personnel Manual

A manual on the planned selection and placement of salesmen in the commercial department of utilities is now available from the Edison Electric Institute, 420 Lexington Ave., New York 17, N. Y. The price of "A Guide for the Selection of Sales Personnel" is 75 cents.

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Meat Loss Brings Suit

The owners of a cold storage plant at Miami, Fla., have sued the Florida Power & Light Co. on charges that last December voltage fell and machinery went out of operation. They claim that as a result a considerable quantity of meat spoiled. They are asking $100,000 damages.

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20-Year Franchise Voted

Jesup, Iowa, has voted the Iowa Public Service Co. a 20-year franchise.

MANUFACTURERS & MARKETS

New Glass-Fiber Insulation Developments Will Lead to Apparatus Improvements

Developments in the form and application of glass-fiber insulation, now in process, will let manufacturers build still greater life and durability against heat, moisture, and chemicals into electrical apparatus, officials of Owens-Corning Fiberglas Corp disclosed in New York last week.

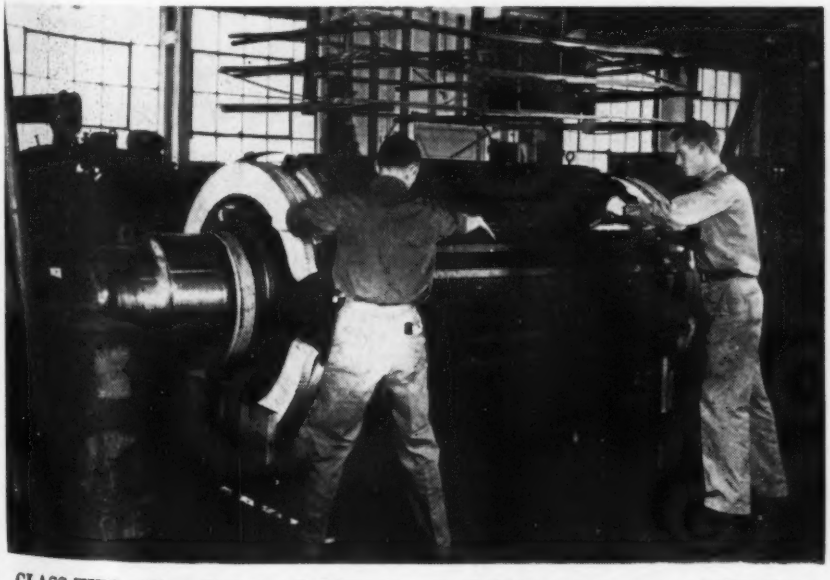
The disclosure was made at the premiere of "Watts in Glass," a full-color sound motion picture portraying the role of Fiberglas insulation in electrical equipment. The picture is designed to interest engineers, manufacturers and users of electrical equipment. Arrangements for showing the picture can be made by writing to Owens-Corning Fiberglas Corp, Film Department, Toledo 1, Ohio.

While not all the developments have reached the stage of commercial development, Roy J. Black, manager of the company's electrical division, said they do highlight progress in the development of high-temperature insulation and reflect growing use of these materials by manufacturers.

Glass-fiber insulating materials played an important part, for example, in Western Electric's new M1 power line carrier telephone system, Black disclosed. In the isolating chokes the finished coil has a layer of glass tape between each layer of copper tape, contributing to moisture and heat resistance. Woven glass fiber sleeves are also used to cover lead wires; glass cords tie the coil ends.

Continuous filament tapes, cloths, sleevings, and cords can now be processed to double their resistance to high temperature. Standard Fiberglas textiles withstand temperatures to 1,000 F. New high-temperature textile materials now in limited production are not affected by operating temperatures up to 2,000 F, Black stated. Trial applications are being made for range heating elements and thermocouple wires.

Low-pressure, glass-fiber, reinforced plastic laminates are now entering the electrical field. They permit complex electrical shapes to be molded and formed with cheaper dies. Already they are being used for slot sticks, to insulate motor spiders, for motor end bells, brush holders, and electrical strain insulators. Reliance Electric Engineering Co is now using such parts in its motors.



GLASS TIES—Glass fiber tape holds end turns of this generator rotor winding here being assembled in the National Electric Coil Co plant at Columbus, Ohio

TRANSFORMER WINDING—Glass-insulated coil for a Y-connected, 150-kva, 3-phase, 4,160-v, dry-type distribution transformer being wound at the Standard Transformer Co. plant at Warren, Ohio

John A. Manning Paper Co, Troy, N. Y., is developing a high-inorganic-content, low-cost electrical paper using Fiberglas fibers to replace about 80 percent of the organic fibers. Only experimental runs have been made to date. If it lives up to expectations, Black said it may provide an essentially inorganic base that can be varnished or coated to give necessary electrical properties for use as cable tape, slot liners in motors and generators, phase insulation and the like.

Many manufacturers are supplying non-metallic-sheathed building cable—permitted by the 1947 National Electrical Code—with a braided glass-fiber jacket. Such a jacket makes savings in manufacturing costs possible, Black disclosed. In addition it is not damaged by dragging over joists or rough construction lumber. Other properties, such as resistance to moisture, fungus and attack by rats, may increase life beyond that of organic braid. Wiring for installation in conduit is also being made with glass-fiber yarn as a binder to hold the textile covering securely in place.

In motors too, space and weight savings with glass-fiber insulation are be-

ing found attractive by machine tool builders. Black reported that Warner & Swasey Co has built 150 electro-cycle turret lathes using glass-fiber-insulated motors of special design having radial vent slots in rotor and stator and a hollow rotor with a magnesium spider to dissipate heat. Even where motor winding space is limited, glass-fiber insulation will usually give a gain in motor reversal capacity of about 25 percent, he said. Under other conditions glass-fiber insulation may contribute to as high as 40 percent gain in reversal capacity.

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A-C Reports $475,941 Net; Billings Up in 2d Quarter

Allis-Chalmers Manufacturing Co has reported net income for the first six months ended June 30, 1947, of $475,941, after provision for federal income taxes of $360,000. The net income compares with a net loss of $8,926,432 for the same period in 1946, incurred because of strikes in seven of the Allis-Chalmers' eight plants.

Net income for the three months ended June 30 amounted to $2,997,806, before provision for federal income taxes. The net income for the six months ended June 30, before federal income taxes, amounted to $835,941.

Billings in the second quarter of this year amounted to $52,598,080 as compared with $23,254,087 in the second quarter of 1946. Billings for the six months ended June 30, 1947, amounted to $84,886,896 as compared with $51,967,115 in 1946.

Unfilled orders on June 30 of this year amounted to $143,743,722 as compared to the 1946 amount of $65,171,780.

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2 Corporations Organized to Handle Monitor Exports

Two corporations have been formed to handle the export of the products of the Monitor Equipment Corp. The one, Monitor Americas Corp, will handle exports to Western Hemisphere nations; the other, Monitor Overseas Corp, will handle all other exports. Headquarters of both corporations is Charlotte, N. C.

Monitor Equipment Corp is composed of 60 distributors of home appliances who market appliances under one name.

Officers of the two export corporations are identical: L. W. Driscoll, president; W. Murray Field, vice-president; and William H. Barnhardt, treasurer.

Manufacturers Make Sales Assignments

Electrical manufacturing companies have recently made the following appointments to their sales staffs:

DELTA-STAR ELECTRIC CO, Chicago, has named Jesse W. Eakins, 423 Curtis Building Detroit 2, Mich., as representative in the southern Michigan territory.

NARRAGANSETT WIRE CO, Pawtucket, R. I., has appointed George R. Magnes of The Agencies Co, Pacific Coast representative for their line of wires and cables. Agencies Co is maintaining a warehouse and sales office at 125 S. Santa Fe Ave, Los Angeles, and a sales office at 420 Market St, San Francisco.

C. P. CLARE & CO, Chicago, has appointed James L. Highsmith, Box 1367, Durham, N. C., as sales representative in North Carolina and South Carolina.

MCGRAW ELECTRIC CO, Clark Water Heater Division, has transferred R. V. Palmquist, formerly district manager for the Iowa-Nebraska territory, to New York to take over the Eastern territory, formerly covered by W. J. Kelly, resigned. Luther E. Wisby has joined the Clark organization as southwestern district manager with headquarters in Tulsa. George E. Schroeder has been made district manager for the East-Central states with headquarters in Columbus, Ohio.

C & D BATTERY CO, Conshohocken, Pa., has appointed C. F. Gross Philadelphia division manager. Mr. Gross was formerly with the Philco Storage Battery Corp, which was recently bought out by Gould Storage Battery Co of Depew, N. Y., a subsidiary of National Battery Co. Mr. Gross is widely known in industrial circles for his knowledge of batteries and materials handling. He is secretary-treasurer of the Material Handling Society of Philadelphia.

SOLAR ELECTRIC CORP, Warren, Pa., has appointed Walter R. Bullock of Boston district representative for the New England States.

A. B. CHANCE CO, Centralia, Mo., has appointed Lester R. Crane Chicago district manager. Mr. Crane was formerly associated with Westinghouse Electric Corp in Pittsburgh as an application sales engineer for switch-gear used in power centers and unit substations. His territory includes the states of Illinois, Indiana, Ohio, Kentucky and Michigan. He succeeds Charles L. Clark, who retired recently after 27 years of service with the company.

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$60 Service Fee Placed by Emerson Television

A $60 installation and service policy for Emerson Radio & Phonograph Corp. home television receivers has been put into effect. The policies will be handled by a subsidiary, Emerson Television Service Corp. This organization will service Emerson television receivers direct from the factory until the trade can set up its own service units.

At the time a television receiver is delivered, the Service Corporation will issue a contract which assumes all responsibilities including the installation of an antenna, the receiver, and the servicing of both for a year. Service covers replacement of parts and tubes including the picture tube.

The $60 fee is billed with each receiver by the dealer.

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Manufacturers Issue Earnings Reports

Among the electrical manufacturing companies that have recently issued earnings statements are the following:

ROME CABLE—June quarter, net earnings, $367,774, or 91 cents a common share, an increase of 57 percent over the $233,488 earned in June quarter of 1946.

WESTERN ELECTRICAL INSTRUMENT—Six months, net income, $406,652 or $2.53 each on 160,583 shares, against $618,820 or $3.85 a share last year.

GENERAL CABLE—Net income for half-year, $3,265,910, equal to $1.48 a common share, the highest earnings for any six-month period in the history of the corporation. For the six months ended June, 1946, the corporation showed a net loss of $1,008,939, which reflected work stoppages at five of the company's plants during that period.

APEX ELECTRICAL MANUFACTURING—Six months to June 30, net profit $935,654, equal to $2.70 each on 340,000 common shares, including $189,685 non-recurring income from settlement of a war claim. June quarter; net profit, $672,476 or $1.95 a share.

HOSKIN MANUFACTURING—Six months, net income, $415,050, or 86 cents each on 480,000 shares, against $445,684 or 93 cents a share last year.

ELECTRIC STORAGE BATTERY—Including wholly-owned subsidiaries, six months, net profit, $2,608,415, equal to $2.87 a share, against $1,533,940 or $1.69 a share last year.

FORMICA INSULATION—Six months, net profit, $430,834, against $110,711 in comparable 1946 period.

WORTHINGTON PUMP & MACHINERY—Including its domestic subsidiaries in six months ended June, net profit $3,177,554 after taxes and all charges. Profit is equivalent to $9.28 a share on the common, and contrasts with $256,680, or $1.81 a share on 141,548 combined shares of $4.50 preferred stock, earned in the first half of 1946.

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Moves New York Offices

Monsanto Chemical Co has announced the removal of its New York offices to 445 Park Ave.

NEWS ABOUT PEOPLE

Braheney Made President of Northern States Power

(See Front Cover)

Bernard F. Braheney of Minneapolis has been elected president of the Northern States Power Co of Minnesota, succeeding the late Theodore D. Crocker. Henry C. Cummins, also of Minneapolis, vice-president in charge of operation, was elected first vice-president. He will continue in charge of operation.

H. C. CUMMINS

Robert F. Pack will continue as chairman of the board.

Mr. Braheney has been connected with Northern States Power Co directly or indirectly since 1910, being first employed at Stillwater in the accounting department. Later he was connected with various divisions of the company and the general office at Minneapolis. In 1920 he joined the staff of the Public Utility Engineering & Service Corp with offices in Chicago. His duties with the service company consisted principally of financial and accounting counsel to various companies, including the Northern States Power Co system. In 1942 he left the service company to again become directly connected with Northern States Power Co at Minneapolis as vice-president and treasurer, the position he held at the time of his election as president.

Mr. Cummins joined the Northern States organization in 1911 and continued with the company until 1917, serving in various operating capacities. From 1917 until 1939, he was a member of the operating division of the Public Utilities Engineering & Service Corp, Chicago. In 1939 he rejoined Northern States to become vice-president in charge of operation, which department he still heads.

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McRonald Appointed Sales Manager of Kurt Versen

Kurt Verson Co, lighting equipment manufacturer, Englewood, N. J., has appointed Bernard McRonald general sales manager.

Born in England, Mr McRonald was graduated from Edinburgh University in Scotland. He was identified with the Silvray Corp and with the Wabash Corp as midwestern sales manager before joining the Kurt Versen staff.

B. MCRONALD

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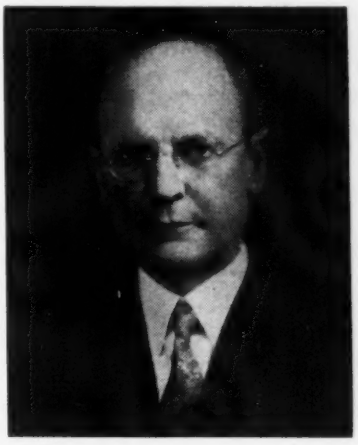
▶ KENNETH L. PARTRIDGE, distribution engineer of the Hartford Electric Light Co, has been appointed assistant superintendent of engineering. He was graduated from Rensselaer Polytechnic Institute in 1921, and at once joined the Hartford utility, his entire service having been in the engineering and distribution departments.

▶ JOHN P. CLARK, radio engineer at the U. S. Naval Research Laboratory, has been appointed assistant professor of electrical engineering at Lehigh University.

F. T. Griffith Resigns As Chairman of Board PGE

Franklin T. Griffith, prominently connected with the electric utility industry in the Pacific Northwest for more than 50 years, has retired as chairman of the board of the Portland (Ore.) General Electric Co, following the practical completion of the plans for the impending reorganization of the company. Mr Griffith served as president of the company from 1913 until 1940, when on his seventieth birthday he assumed the duties of chairman.



F. T. GRIFFITH

For many years Mr. Griffith took an active part in the affairs of the old National Electric Light Association, serving as president 1924-25. As chairman of the association's water power development committee, he did work of immense value in furthering the development of water powers in the Northwest. He won wide recognition as a national legal authority on riparian rights and water power and hydroelectric jurisprudence. He is also a past-president of the Northwest Electric Light and Power Association.

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▶ JACK P. LEWIS, assistant to the manager of the Stamford division, Connecticut Power Co, has been appointed director of engineering for the company. Mr. Lewis was graduated from Rensselaer Polytechnic Institute in 1930, receiving the degree of doctor of engineering there in 1933. He joined the

Stamford utility permanently on completing his college training; was electrical engineer from 1940 to 1942 and division engineer from 1942 to 1943. WALTER N. NELSON has been named assistant to the manager, Stamford division. He joined the company in 1935 after serving as a field and office engineer on power and industrial plant construction with the Stone & Webster Engineering Corp, and has been division engineer since 1943. ROBERT H. PEARSON, supervisor of personnel, Connecticut Power Co, has assumed the duties in connection with personnel work in the Stamford division formerly carried by Mr. Lewis.

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Frederick J. Riker Heads Livingstone Engineering

Frederick J. Riker, former manager, Forge Blanks Division, Crucible Steel Co of America, has been named president of Livingstone Engineering Co (formerly Speedy Electric Engineering Co), electric steam boiler manufacturers of Boston.

Riker thus re-affiliates himself with steam and power engineering, since his first job after graduation from Stevens Institute of Technology was on the personal laboratory staff of Thomas A. Edison. He later became assistant chief engineer of the Edison Laboratories and afterwards manager, Power Service Division, Thomas A. Edison Industries.

In his new position, he succeeds Carter C. Higgins, who has been elected chairman of the board.

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▶ THOMAS M. FLEMING, senior engineer in the general office engineering department of the Kentucky Utilities Co, Lexington, has resigned to enter the consulting engineering business. Mr. Fleming started to work for the Kentucky utility on a part-time basis during his college days. He went on a continuous basis in 1928 and the following year entered the engineering department in the general office. From that time on, as senior engineer, he did general electrical engineering, substation, general distribution work, line and distribution layouts, etc. Mr. Fleming is a member of the American Institute of Electrical Engineers.

▶ WILLIAM H. KNIGHT, Pullman, Wash,. at present the Palouse rural electrification representative of Washington Water Power Co has been appointed assistant agricultural engineer at the University of Idaho, Moscow, where he will supervise a new statewide program in farm electrification. The program, which will involve research in the development of new farm uses for electric power, is being financed by grants from Utah, Idaho, and Washington power companies.

▶ D. A. GRIFFITH has been named assistant to J. W. McMullen, general manager of Allis-Chalmers' Pittsburgh Works. Griffith, who attended Carnegie Institute of Technology, has been associated with the Allis-Chalmers transformer section at the Pittsburgh plant since 1927.

▶ PROF C. RICHARD SODERBERG has been appointed head of the department of mechanical engineering at the Massachusetts Institute of Technology, succeeding Dr J. C. Hunsaker, who continues as head of the department of aeronautical engineering. Prof Soderberg has been deputy head of the department for some time. He was formerly manager of the steam turbine division of the Westinghouse company and is internationally known for his work in the prime mover field.

OBITUARY

Luther R. Nash

Luther R. Nash, consulting engineer and public utility rate expert, died on August 10 at Danbury, Conn., after an illness of two days. He was 76 years old.

For many years Mr Nash was public relations manager for the Stone & Webster interests, specializing in rates, fares, franchises, taxation and regulation.

He was born at Ridgefield, Conn., in 1871 and was educated at the Massachusetts Institute of Technology and at the Harvard University Graduate School of Arts and Sciences. He was continuously associated with the Stone & Webster Engineering Corp from 1895 to 1938. Starting in the Boston branch, he was a design and construction engineer until 1904, a manager of public utilities the next four years, and an appraisal engineer and rate expert until 1919. It was at that time that he assumed the duties of public relations manager and in 1932 he was made a vice-president of the company.

Mr Nash was a member of the American Institute of Electrical Engineers and of a number of other societies. His most recent book, published last March, was "The Anatomy of Depreciation." Among his other books were "Economics of Public Utilities" and "Public Utility Rate Structures."

▶ V. D. L. ROBINSON, information director for the Tennessee Valley Authority in the Chattanooga area, died in that city on August 10 at the age of 66. Mr Robinson, who joined the TVA staff in 1933, had been administrative assistant to David E. Lilienthal, who was a member of the board of directors of TVA. Later he was transferred to the information department and placed in charge of the entire Chattanooga area. Before becoming a member of the TVA staff, Mr Robinson was a newspaper man, having worked for The Chattanooga Times, The Louisville Courier-Journal and The Memphis Commercial Appeal.

▶ HENRY J. PIERCE, public utilities and railroad developer, died on August 7 at the age of 88 at Rockport, Mass., where he was spending his vacation. After extensive experience in the railroad field, he turned his interest to the electric power industry, holding executive positions with several subsidiaries of the Electric Bond & Share Co. In 1930, he was vice-chairman of the United States delegation to the World Power Conference in Berlin. Mr Pierce was born in Bath, Me.

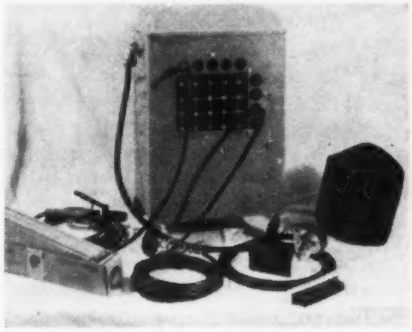
▶ CLARENCE E. UPHAM, 73, for 30 years safety engineer of the Lynn (Mass.) Works of the General Electric Co., died at Lynn on August 12.

▶ JOSEPH E. SIRRINE, 74, one of the South's best known industrial engineers and senior partner in the firm of J. E. Sirrine & Co., Greenville, S. C., died on August 7 following three years of declining health. A native of Americus, Ga., Mr. Sirrine was graduated from Furman University and founded his engineering firm in 1902 after serving as southern representative for Lockwood Greene & Co. Mr Sirrine was chairman of Brandon Mills, Greenville; vice-president of four other South Carolina textile companies, and director of 19 other textile companies in the Southeast. During World War I he was chairman of the Price Fixing Committee for Cotton Textiles and during World War II he served as a member of the Cotton Mill Industry Advisory Committee for the War Production Board. Mr Sirrine was a member of the American Institute of Electrical Engineers, the American Society of Mechanical Engineers and the American Society of Civil Engineers. His engineering work and design was widespread and touched practically every industry including electric utilities, textiles, chemicals, food, pulp and paper mills, water supply systems, tobacco and aluminum plants.

NEW EQUIPMENT

Arc Welder Developed For Limited Input

A GENERAL-PURPOSE transformer arc welder, designed for use on single-phase power lines of limited capacity, is available from Westinghouse Electric Corp in three output ratings: 130, 160 and 180 amp. The welder is furnished with line breaker, power cable with plug and receptacle, insulated electrode holder, electrode lead with holder and adjustment plug, work lead with ground clamp and adjustment plug, electrodes, helmet complete with lens and cover glass, wire brush, and a welding instruction manual.



The three models, WT-13, WT-16 and WT-18, bring to the farmer or owner of a small repair shop a welder suited to the repair jobs they have to do. They have 20 steps of current adjustment between 20 amp and the rated maximum. They provide two striking voltages: 65 volts for small electrodes on the lower half of the range; 50 volts for larger electrodes on the upper half of the range. These welders are designed to conform to the standards of the National Electrical Manufacturers Association, to meet the requirements of the REA, and are listed by the Underwriters Laboratories, Inc.

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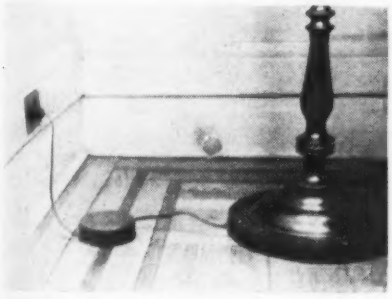
Small Plastic Reel For Fixture Cord



A PLASTIC REEL, known as the Reel-Away, designed for the purpose of taking care of excess lamp and appliance cords, has been introduced by Eypper & Co, 150 East 50th St, New York, N. Y. The device is a neutral dark brown and approximately 3½ in. diameter and 1¼ in. high. About 10 ft of cord can be wound in by turning the top and is extended by a slight pull on the cord.

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Floodlight Equipment Mounted on Trailer

TO PROVIDE LIGHTING for night construction projects, Arrow Supply Co, Pittsburgh, Pa., has developed a portable 3,000-watt light tower and generator rig. The equipment is mounted in half-ton all-steel utility trailer manufactured by the American Bantam Car Co, Butler, Pa.

The welded steel tower operates on a hinge fastened to the trailer canopy. On top of the tower are two 1,500-watt clear globes in reflectors. When erected, the tower is 18 ft in height; when folded, it has approximately 9-ft road clearance. The lights are pivot-mounted and have adjustable beam and spread.

Welded to the steel bed of the trailer is a gasoline-powered generator, manufactured by D. W. Onan & Sons, Minneapolis. It has a 5-gal fuel tank and can be started automatically, providing a-c power for the lights. A 12-volt circuit for battery charging also is included.

The generator weighs approximately 460 lb and the tower and other equipment total about 440 lb, making the gross weight 900 lb for the trailer.

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Convert Light Fixtures To Shielded Models

A CONVERSION SET, packed as a complete unit, to transform bare fluorescent fixtures to shielded units is made available by Sylvania Electric Products Inc, Salem, Mass. Catalogued as CG-DA (commercial glass-diffusing assembly), the set consists of a shield frame assembly, glass panels or louvers, retaining clips, joint covers, and remounting hook or bracket, with necessary hardware. With this set, the bare lamp C-240 or C-440 Sylvania fixture can be converted into either a glass shielded (CG) or louvered (CL) model.

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Probe Has Adjustable Magnetic Field

A MAGNETIC PROBE known as the Magicbar, adaptable to industrial, first aid and household uses, is obtainable from Eljay Enterprises, P.O. Box 891, Newark 1, N. J. The probe comprises a housing of polished plastic containing a magnet that can be expelled from and retracted into the housing much like a mechanical pencil. A pocket clip is provided. The magnet is propelled by turning a knob. Magnetic strength is adjustable, being maximum when the magnet is fully extended and minimum when the magnet is fully retracted.

ELECTRICAL BUSINESS OUTLOOK

ELECTRIC POWER OUTPUT has leaped to a new high. Production is running at a rate of 4.85 billion kwhr weekly; if the usual seasonal correction is applied, this is the equivalent of about 4.9 billion kwhr.

This upsurge has raised renewed alarm in some quarters. The fear is that a power shortage of some breadth may develop. Yet calm appraisal suggests that events are not likely to be much different from what has been expected for some months.

Two developments contributed to the rise of recent weeks. Both are of a temporary nature. One was the heat wave, which added materially to refrigeration loads. The second is a pick-up of industrial output in certain consumer-goods lines.

The industrial pickup reflects a renewal of inventory buying. In the main, however, this buying is to replace sorely depleted stocks. No sustained wave of increased production for inventory is in the cards.

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FORECASTS OF POWER OUTPUT for the remainder of the year need to consider the likely movement in each of the principal markets. Here is the lineup as it now appears — somewhat higher than at our last report.

a) Residential sales—Have been running about 14 percent ahead of a year ago. At the most this margin is not likely to fall below 11 percent by the year-end.

b) Commercial sales—The gain here has averaged 15 percent. A conservative estimate might cut the advance in December to 12 percent.

c) Industrial sales—These are the big question mark. The Federal Reserve index of production probably stood at about 180 for July. It isn't likely to go lower than 171 by December. This would entail a drop of 6 percent from a year earlier.

Under conditions such as these—and at the moment they appear to fix a lower limit insofar as it is set by demand—power output would need to top that of December, 1946, by about 2 percent.

Against this can be set an upper limit. This might assume no decrease in the rate at which commercial and residential sales have been advancing. It might also assume a cut in industrial production of only 3 percent. These conditions would require a power output 4 percent above December, 1946.

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YEAR-END PEAK, under either of these assumptions, will break all records.

One method of estimating—admittedly very rough—relates the sum of non-coincident peaks to an estimate of power output for the year as a whole. With year-end demand as described above, power output for 1947 would fall somewhere in the range between 242 and 248 billion kwhr.

Under such a volume, the sum of non-coincident peaks might climb to somewhere between 47 and 50 million kw. Last year it came to 45 million kw. A peak of 50 million kw would just about wipe out all nominal reserve.

Capacity at July 1 was 50,596,000 kw, up only about 300,000 kw since last year end. Installations in the final six months are unlikely to raise this more than another 1,000,000 kw.

On a sheer statistical basis, then, power supply looks as though it will be very tight indeed. It may be well to recall, however, that the statistical picture in certain areas looked equally bad at times during the war. But shortages failed to have the serious consequences many alarmists predicted.

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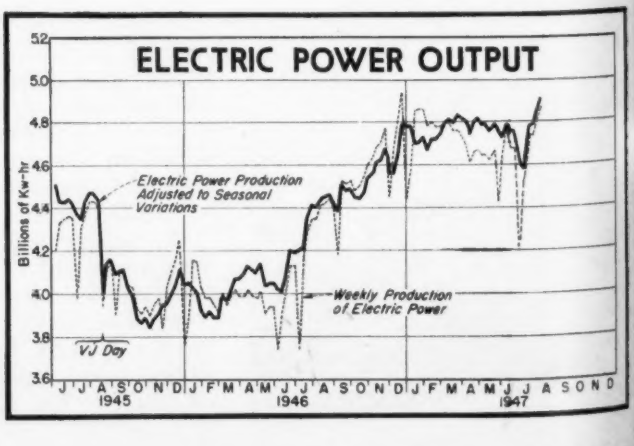
POWER SHORTAGES, if they develop, are likely to be limited to a relatively small number of areas. And, few, if any, should result in serious inconvenience. Some systems will undoubtedly have to resort to reduced voltage over peaks, voluntary shedding of non-essential loads and other temporary expedients in local areas.

The industrial Mid-West may turn up with the largest number of tight spots. Little or no decline in industrial output is expected in its chief durable-goods centers. Again, key to these forecasts, and key to the power outlook, is industrial production. This needs to be watched closely over coming months.